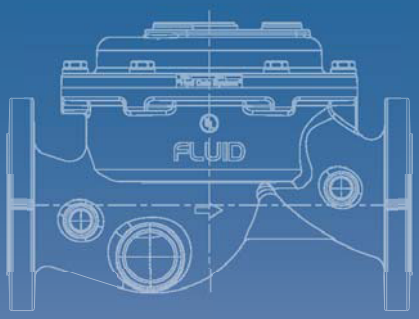
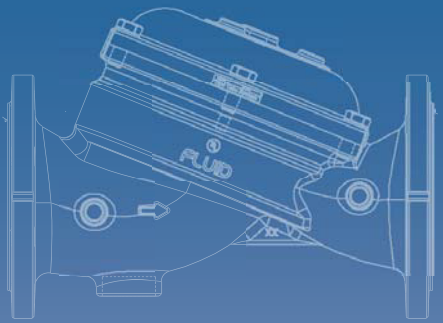
FLUID EQUIPMENT INTERNATIONAL LTD.

FIRE PROTECTION

www.fluid-equipment.com

DELUGE VALVES &
WATER MOTOR ALARM GONG



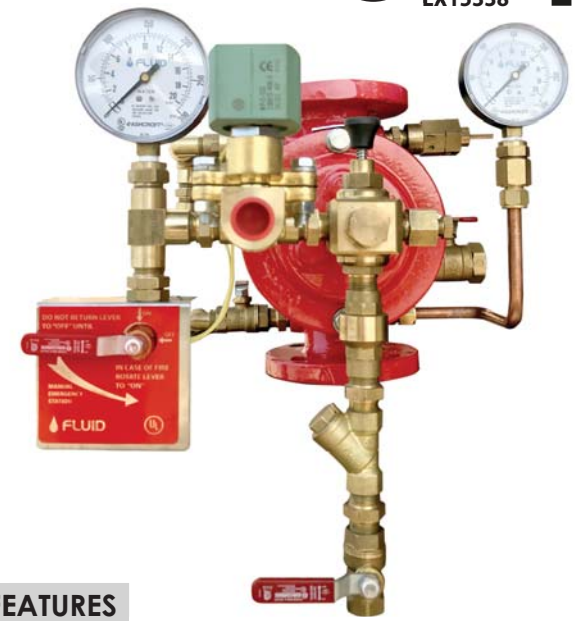


FLUID®

UL® REGISTERED FIRM

MODEL FX

DELUGE VALVES
(DN40 - DN100)



Model FX-E/EM
Electrically Actuated Deluge Valve
Auto Reset/Manual Reset

Model FX-H/HM
Hydraulically Actuated Deluge Valve
Pilot Controlled
Auto Reset/Manual Reset

Model FX-P/PM
Pneumatically Actuated Deluge Valve
Auto Reset/Manual Reset

Model FX-PE/PEM
Electrically and Pneumatically Actuated Deluge Valve
Pre-action double interlock System

Model FX-HR/ER
Flow Regulating Deluge Valve
Constant lower preset, downstream pressure

APPLICATIONS

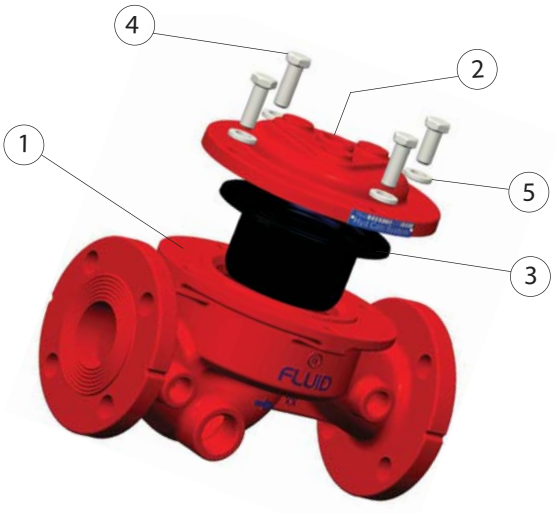
- Deluge & Dry Pipe Systems
- Foam Systems
- Single or double Interlock Pre-Action
- Fresh Water, Sea water, Foam solution or Foam concentrate
- Offshore platforms and helidecks
- Ni Al Br body deluge valve available for corrosive environments
- Remote controlled valves

FEATURES

- UL Listed - EX26775 & EAC Certified TP TC 010/2011 (EAC RU D-IN.AD07.B.01579/19)
- Simple structure - valve is maintenance free
- Automatic reset - optional manual reset
- Copper trim tubing and brass fittings optional
- Maximum working pressure up to 250 PSI (17.25 bar)
- Factory assembled trim package
- Compatible with hydraulic, electric and pneumatic release
- Electrical trim with 2-way Solenoid Valve
- Optional Items: Pressure Switch, Water motor alarm gong
- External manual reset, without opening the valve
- Can be used in vertical or horizontal position

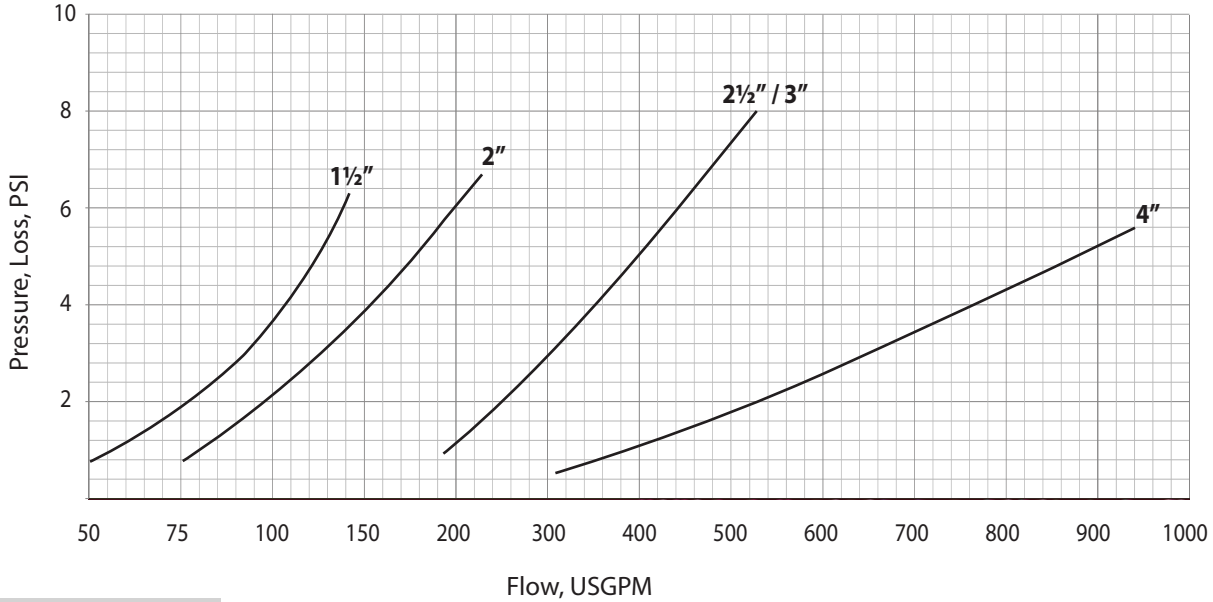
OPERATION

The Fluid Model FX is a quick opening differential diaphragm deluge valve with one moving part. The valve is held closed by the system water pressure in priming chamber, there by rendering the system piping dry. During fire or test conditions, when the releasing system operates pressure is released from the priming chamber allowing the valve to open and to start the flow of water.



Serial No.	Description
1	Body
2	Bonnet
3	Diaphragm
4	Bolts
5	Washers

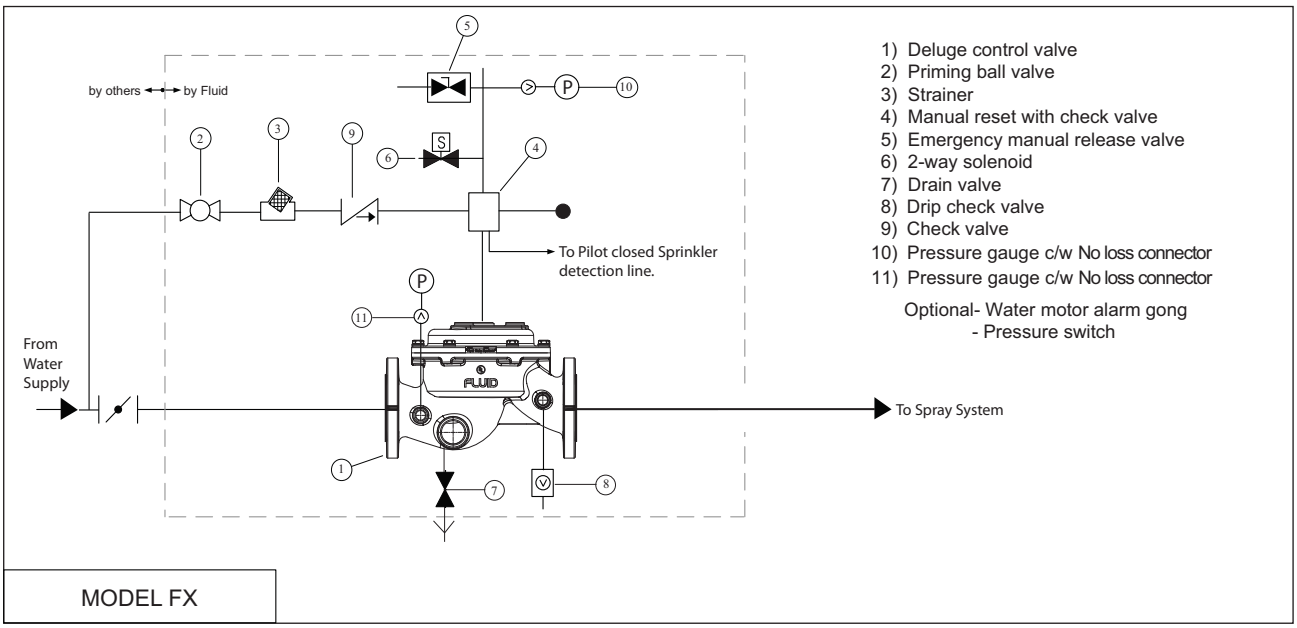
FRICTION LOSS CHART



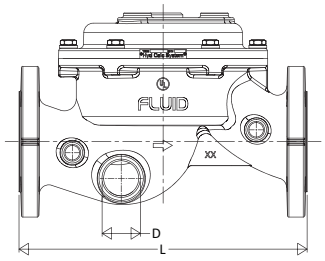
SPECIFICATIONS

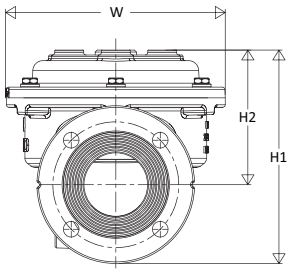
- The Deluge valves are UL Listed, diaphragm sealing weir type valve with proven reliable design.
- The valves have an unobstructed flow path with no stem guide or supporting ribs. Valve actuation shall be accomplished by a fully peripherally supported, one-piece flexible diaphragm. The diaphragm assembly shall be the only moving part.
- The valves have a removable cover for quick in-line service, enabling all necessary inspection and servicing.
- The control trim materials shall consist of GI / Copper tubing, brass valves & accessories including 2-way solenoid valve for electrical trim only, strainer and emergency manual release.
- The trim kit shall be supplied loose in box or pre-assembled and hydraulically tested at factory.

CONTROL SCHEME- ELECTRICALLY OPERATED DELUGE VALVE (MANUAL RESET TYPE)

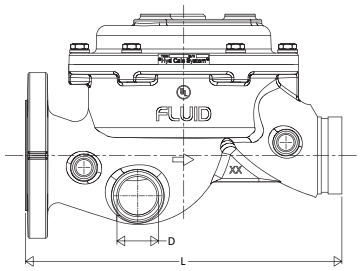


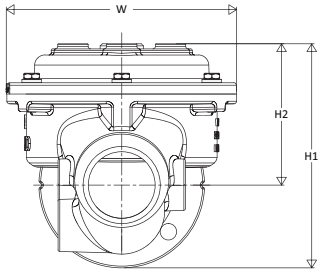
TECHNICAL DATA





Flange to Flange





Flange to Groove

Nominal Size mm / in	Cover Bolt		Drain Thread Size D	Dimensions				Weight (Kgs /Lbs)	
	Size	Qty		L mm/in	H1 mm/in	H2 mm/in	W mm/in	F/F	F/G
40	M12	3	¾" NPT	256.0	148.2	88.8	159.3	-	6.66*
1½	M12	3	¾" NPT	10.1	5.8	3.5	6.3	-	14.682*
50	M12	4	1" NPT	287.6	181.3	104.5	193.0	14.400	12.230
2	M12	4	1" NPT	11.3	7.1	4.1	7.6	31.747	26.963
65	M12	6	1½" NPT	365.0	258.6	163.0	265.0	32.130	28.300
2½	M12	6	1½" NPT	14.4	10.2	6.4	10.4	70.834	62.391
80	M12	6	1½" NPT	365.0	258.6	163.0	265.0	32.130	28.300
3	M12	6	1½" NPT	14.4	10.2	6.4	10.4	70.834	62.391
100	M16	6	2" NPT	468.0	344.5	229.5	335.0	62.780	56.410
4	M16	6	2" NPT	18.4	13.6	9.0	13.2	138.406	124.363

* Grooved to Grooved End.,
Note: Dimensions for the trim envelope may vary with specific component positioning.

Connection Standard:

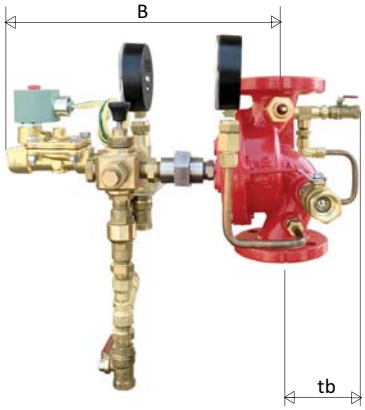
- Size: 1½", 2", 3" & 4"
  - Flanged: ANSI B 16.42 class 150
    B 16.5 (steel, ductile iron & class 300 for stainless steel)
  - Grooved: ANSI C606
- Size: 2½" is only available in flanged BS4504 PN16

Water Temperature:

- -5°c to 80 °c (180 °F)

Pressure Rating:

- Up to 250 psi (17.25 bar)



MANUFACTURERS STANDARD MATERIAL

Main valve body and cover:

- Ductile Iron ASTM A-536

Control Trim System:

- GI pipe & fittings with brass accessories

Elastomers:

- Neoprene

Coating:

- Epoxy painted to RAL3001

OPTIONAL MATERIAL

Main valve body:

- Cast Steel ASTM A-216 WCB
- Stainless Steel CF-8M.
- Ni-Al-Bronze ASTM B-148

Control Trim:

- Stainless Steel
- Copper with brass accessories

Nominal Size mm / in	Dimensions			
	B mm/in	tb mm/in	Bs mm/in	Bx mm/in
40	260	200	245	250
1½	10.20	7.87	9.64	9.84
50	275	200	245	250
2	10.80	7.87	9.64	9.84
65	335	200	245	250
2½	13.19	7.87	9.64	9.84
80	335	200	245	250
3	13.19	7.87	9.64	9.84
100	400	200	245	250
4	15.72	7.87	9.64	9.84

Note: The information contained in this document is subject to change without notice due to continues improvement process. FLUID shall not be liable for any errors contained herein.

FLUID®
Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

MODEL FX

DELUGE VALVES
(DN100 - DN250)

UL LISTED EX15338 EAC

Model FX-E/EM
Electrically Actuated Deluge Valve
Auto Reset/Manual Reset

Model FX-H/HM
Hydraulically Actuated Deluge Valve
Pilot Controlled
Auto Reset/Manual Reset

Model FX-P/PM
Pneumatically Actuated Deluge Valve
Auto Reset/Manual Reset

Model FX-PE/PEM
Electrically and Pneumatically Actuated Deluge Valve
Pre-action double interlock System

Model FX-HR/ER
Flow Regulating Deluge Valve
Constant lower preset, downstream pressure

APPLICATIONS

- Deluge & Dry Pipe Systems
- Foam Systems
- Single or double Interlock Pre-Action
- Fresh Water, Sea water, Foam solution or Foam concentrate
- Offshore platforms and helidecks
- Ni Al Br body deluge valve available for corrosive environments
- Remote controlled valves

FEATURES

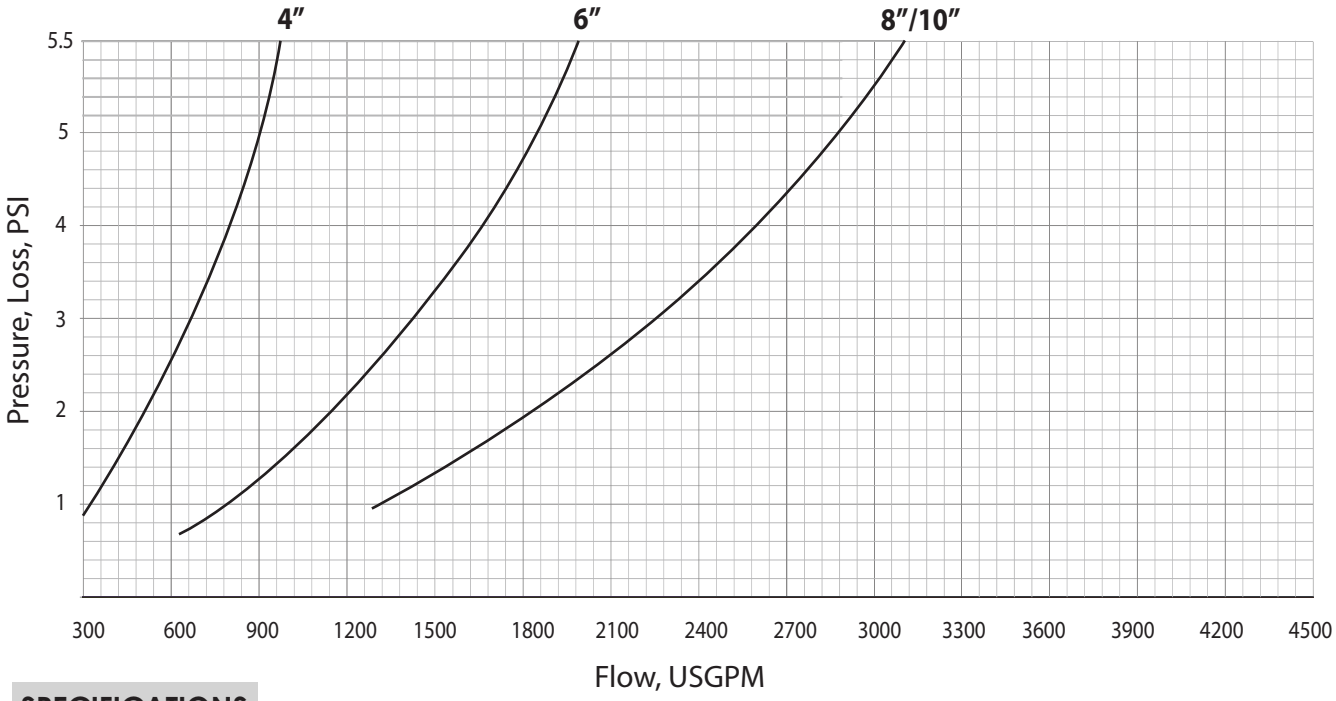
- UL Listed - EX26775 & EAC Certified TP TC 010/2011 (EAC RU D-IN.AD07.B.01579/19)
- Simple structure - valve is maintenance free
- Automatic reset – optional manual reset
- Copper trim tubing and brass fittings optional
- Maximum working pressure up to 250 PSI (17.25 bar)
- Factory assembled trim package
- Compatible with hydraulic, electric and pneumatic release
- Electrical trim with 2-way Solenoid Valve
- No Mechanical moving parts
- External manual reset, without opening the valve
- Can be used in vertical or horizontal position

OPERATION

The Fluid Model FX is a Y-type quick opening differential diaphragm deluge valve. The valve is held closed by the system water pressure in priming chamber, there by rendering the system piping dry. During fire or test conditions, when the releasing system operates pressure is released from the priming chamber allowing the valve to open and to start the flow of water.

Serial No.	Description
1	Body
2	Bonnet
3	Diaphragm
4	Bolts
5	Washers

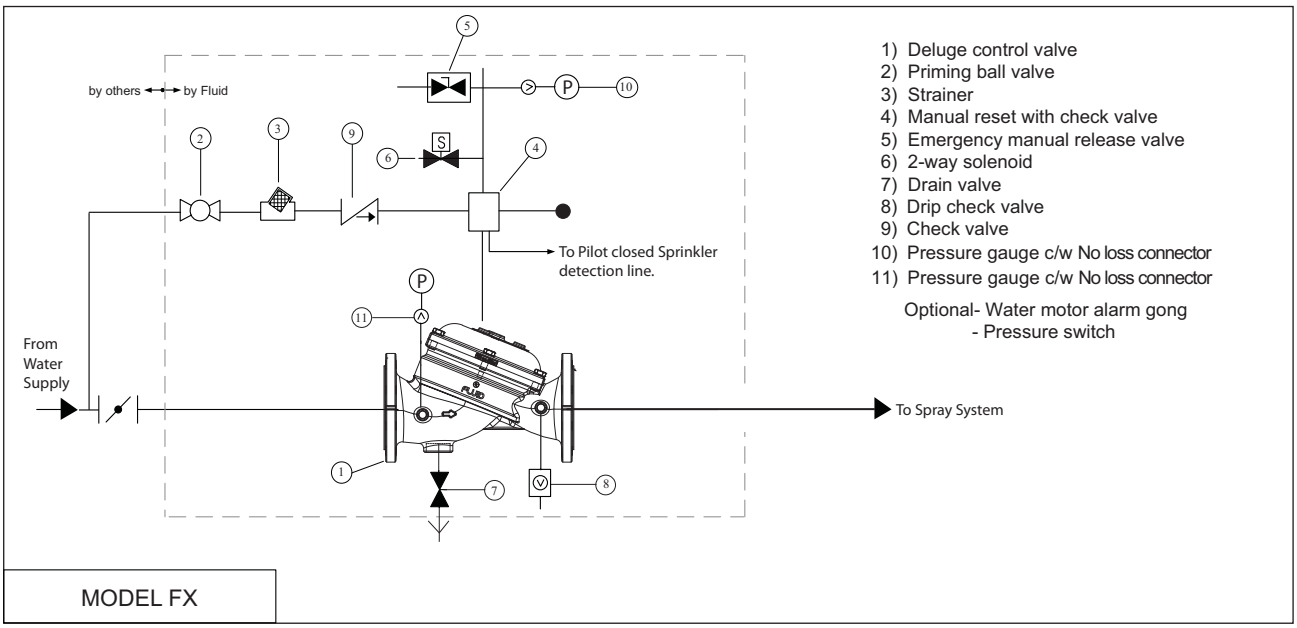
FRICTION LOSS CHART



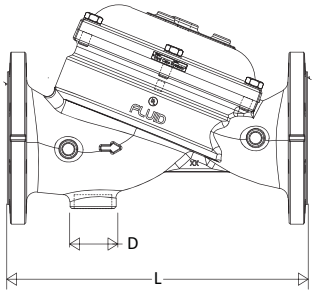
SPECIFICATIONS

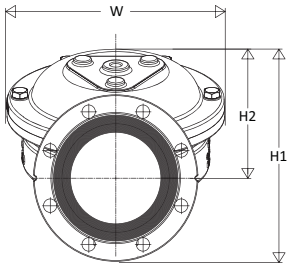
- The Deluge valves are UL Listed, diaphragm sealing weir type valve with proven reliable design.
- The valves have an unobstructed flow path with no stem guide or supporting ribs. Valve actuation shall be accomplished by a fully peripherally supported, one-piece flexible diaphragm. The diaphragm assembly shall be the only moving part.
- The valves have a removable cover for quick in-line service, enabling all necessary inspection and servicing.
- The control trim materials shall consist of GI / Copper tubing, brass valves & accessories including 2-way solenoid valve for electrical trim only, strainer and emergency manual release.
- The trim kit shall be supplied loose in box or pre-assembled and hydraulically tested at factory.

CONTROL SCHEME- ELECTRICALLY OPERATED DELUGE VALVE (MANUAL RESET TYPE)

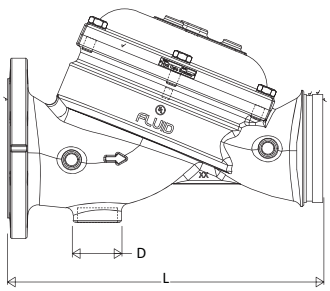


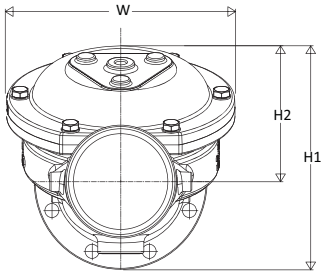
TECHNICAL DATA





Flange to Flange





Flange to Groove

Nominal Size mm / in	Cover Bolt		Drain Thread Size D	Dimensions				Weight (Kgs /Lbs)	
	Size	Qty		L mm/in	H1 mm/in	H2 mm/in	W mm/in	F/F	F/G
100	M16	6	2" NPT	380.0	301.0	186.0	304.0	40.230	35.270
4	M16	6	2" NPT	14.96	11.85	7.32	11.97	88.691	77.757
150	M16	6	2" NPT	490.0	357.5	217.5	369.5	62.500	54.900
6	M16	6	2" NPT	19.28	14.07	8.56	14.55	137.800	121.050
200	M20	8	2" NPT	592.0	447.5	275	440.0	106.500	92.670
8	M20	8	2" NPT	23.31	17.62	10.83	17.32	234.800	204.300
250	M20	8	2" NPT	580.0	477.5	275.0	440.0	123.300	-
10	M20	8	2" NPT	22.83	18.80	10.83	17.32	271.830	-

Note: Dimensions for the trim envelope may vary with specific component positioning.

Connection Standard:
- Flanged: ANSI B 16.42 class 150, Flat Face B 16.5 (steel, ductile iron & class 300 for stainless steel).
- Grooved: ANSI C606

Water Temperature:
- -5°c to 80 °c (180 °F)

Available Size:
- 4", 6", 8" & 10"

Pressure Rating:
- Up to 250 psi (17.25 bar)

MANUFACTURERS STANDARD MATERIAL

Main valve body and cover:
- Ductile Iron ASTM A-536

Control Trim System:
- GI pipe & fittings with brass accessories

Elastomers:
- Neoprene

Coating:
- Epoxy Painted to RAL 3001

OPTIONAL MATERIAL

Main valve body:
- Cast Steel ASTM A-216 WCB
- Stainless Steel CF-8M
- Ni-Al-Bronze ASTM B-148

Control Trim:
- Stainless Steel
- Copper with brass accessories

Nominal Size mm / in	Dimensions			
	B mm/in	tb mm/in	Bs mm/in	Bx mm/in
100	360	225	242	240
4	14.17	8.86	9.53	9.45
150	385	195	242	290
6	15.16	7.68	9.53	11.42
200	435	195	242	290
8	17.12	7.68	9.53	11.42
† 250	435	275	242	290
10	17.12	10.82	9.53	11.42

† UL listing pending.

Note: The information contained in this document is subject to change without notice due to continues improvement process. FLUID shall not be liable for any errors contained herein.

FLUID®
Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

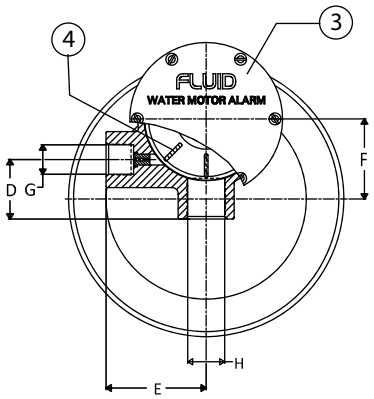
DELUGE VALVES

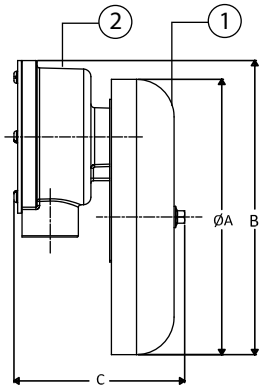
Model 250

WATER MOTOR ALARM GONG

UL LISTED EX27919

- Fire Protection Service.
- The Fluid water motor alarm gong is a mechanical device driven hydraulically by a flow of water.
- Fluid water motor gong is normally mounted outside the building or near the valve station and energized by water flowing from the system valve, it is designed to sound automatically a continuous piercing alarm when the sprinkler or spray system operates to extinguish the fire.
- Compact, light weight, Non corrosive construction, No Lubrication, Easy for installation.
- Rated working pressure: 250 psi.
- Operates at very low pressures of 15 psi.
- Strainer shall be installed on the alarm line to protect the water motor alarm gong from clogging.
- Connection: Screwed Connection 3/4"NPT on the inlet and 1"NPT on the drain outlet.
- Extended wall mounting provision is available as optional.
- Finish: Polished.





MATERIAL SPECIFICATION

Part No.	Part Name	Description
1	Gong	Aluminium
2	Housing	Aluminium
3	Cover	Aluminium
4	Impeller	Delrine

DIMENSIONS

Dimensions (mm / inch)								Weight Kgs / Lbs
A	B	C	D	E	F	G	H	
220	235	136.4	47.5	80	64	¾"NPT	1"NPT	1.9
8.66	9.25	5.37	1.87	3.15	2.52	¾"NPT	1"NPT	4.19

Note: Design and Materials are subject to change without notice.

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

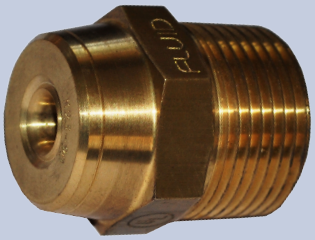
UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

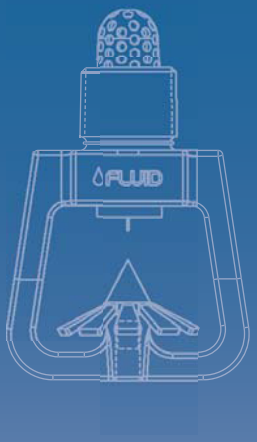
www.fluid-equipment.com

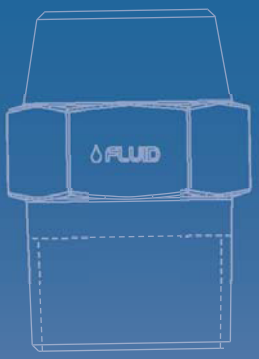
FLUID EQUIPMENT INTERNATIONAL LTD.

FIRE PROTECTION



SPRAY NOZZLES





FLUID®

Model 212

MEDIUM VELOCITY OPEN SPRAY NOZZLES

UL LISTED EX26456

- Directional Spray Nozzle with cone shaped spray pattern.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Spray Nozzle Yoke is made of Brass conforming to CuZn36Pb2AS - ASTM B455 C38500.
- Suitable for a maximum working pressure of 175 psi (12.06 bar).
- Many orifice sizes and angles are available.
- Also available in SS316 construction.

Nozzle shown in pendent position for clarity, may be installed in any position as per design requirements.

SPECIFICATION

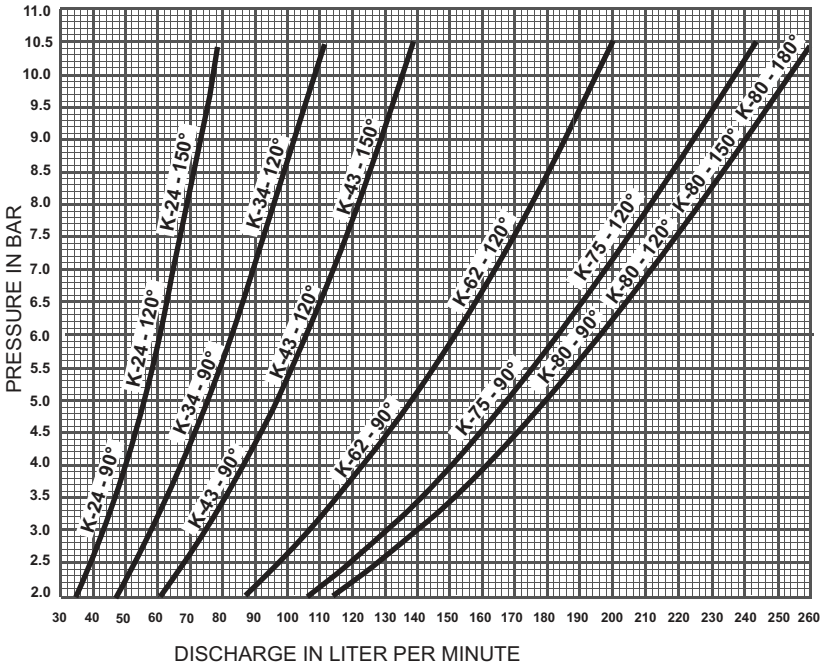
Description	Material of Construction
Yoke	Brass
Deflector	Brass
Splitter	Brass
Strainer (optional)	Copper

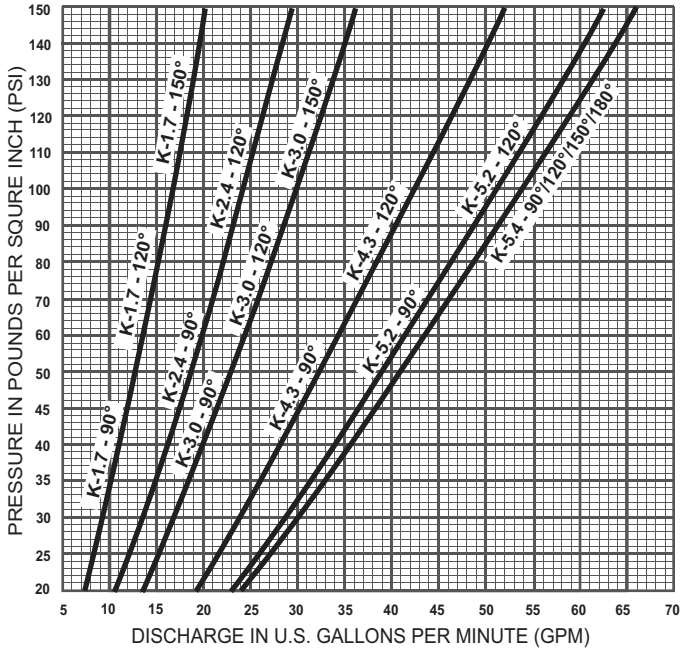
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Orifice mm / in	Effective Working Pressure Minimum bar / psi	L mm/in
15	90°,120°,150°	24	7.5	1.4	68
½	90°,120°,150°	1.7	19/64	20	2 11/16
15	90°, 120°	34	8.0	1.4	68
½	90°, 120°	2.4	5/16	20	2 11/16
15	90°,120°,150°	43	9.7	1.4	68
½	90°,120°,150°	3.0	3/8	20	2 11/16
15	90°, 120°	62	11.2	1.4	68
½	90°, 120°	4.3	7/16	20	2 11/16
15	90°, 120°	75	12.0	1.4	68
½	90°, 120°	5.2	15/32	20	2 11/16
*1 15	90°, 120°, 150°, 180°	80	12.15	1.4	68
*1 ½	90°, 120°, 150°, 180°	5.4	0.48	20	2 11/16

- Finish: Available in natural brass and electroplated finishes.
- Accessories: Nozzle Cap and Spanner are available.
- For flow details refer flow curves.

*1 Not UL listed.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle. Make sure that deflector is not bent or damaged.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Note: The information contained in this document is subject to change without notice due to continues improvement process. FLUID shall not be liable for any errors contained herein.

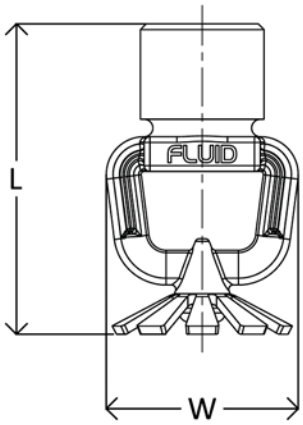
Model 213

MEDIUM VELOCITY SPRAY NOZZLES

UL LISTED EX26456

- Directional Spray Nozzle with cone shaped spray pattern.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Spray Nozzle Yoke is made of Brass conforming to CuZn36Pb2AS - ASTM B455 C38500.
- Suitable for a maximum working pressure of 175 psi (12.06 bar).
- Many orifice sizes and angles are available.
- Also available in SS316 construction.

Nozzle shown in pendent position for clarity, may be installed in any position as per design requirements.



SPECIFICATION

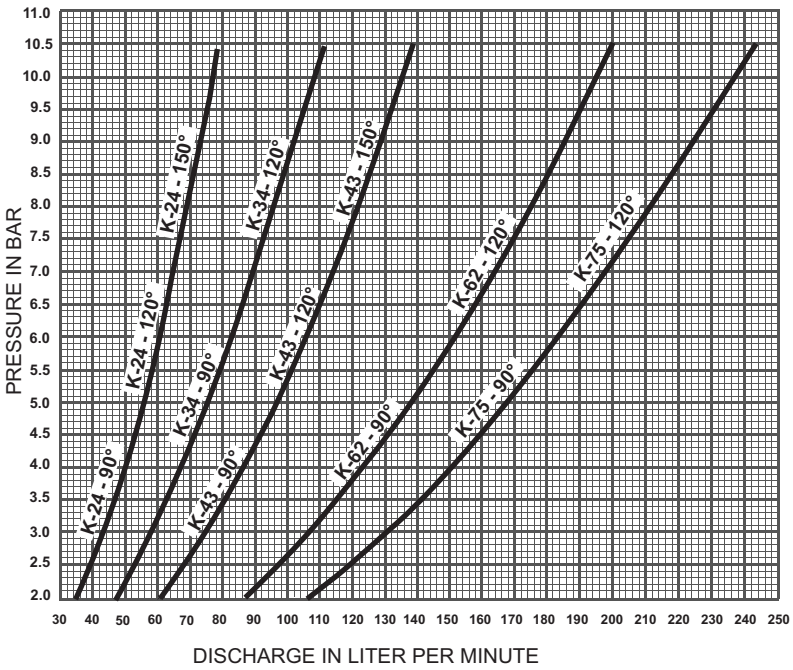
Description	Material of Construction
Yoke	Brass / ASTM A351 CF8M
Deflector	Brass / SS316
Washer	Brass / SS316
Screw	Brass / SS316

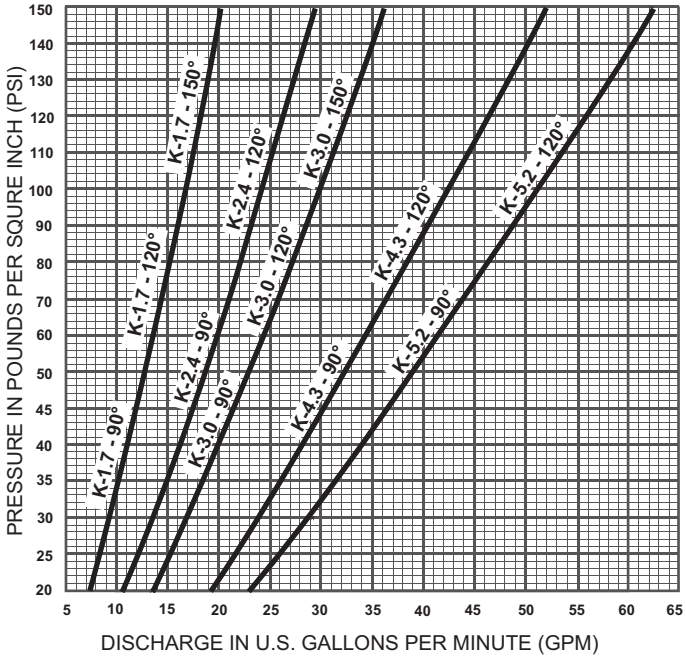
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Orifice mm / in	Effective Working Pressure Minimum bar / psi	L mm / in	W mm / in
*1 15	90°	13	4.5	1.4	53.5	33.0
½	90°	0.9	0.177	20	2.11	1.30
*1 15	90°	17	6.0	1.4	53.5	33.0
½	90°	1.2	0.236	20	2.11	1.30
15	90°,120°,150°	24	7.5	1.4	53.5	33.0
½	90°,120°,150°	1.7	0.295	20	2.11	1.30
15	90°, 120°	34	8.0	1.4	53.5	33.0
½	90°, 120°	2.4	0.315	20	2.11	1.30
15	90°,120°,150°	43	9.7	1.4	53.5	33.0
½	90°,120°,150°	3.0	0.382	20	2.11	1.30
15	90°, 120°	62	11.2	1.4	53.5	33.0
½	90°, 120°	4.3	0.441	20	2.11	1.30
15	90°, 120°	75	12.0	1.4	53.5	33.0
½	90°, 120°	5.2	0.472	20	2.11	1.30

- Finish: Available in natural brass and electroplated finishes.
- Accessories: Nozzle Cap and Spanner are available.
- For flow details refer flow curves.

*1 Not UL Listed.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle. Make sure that deflector is not bent or damaged.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Model 230 NC

UL LISTED EX26456

HIGH VELOCITY
NARROW COVERAGE STANDARD FULL CONE

- Fluid spray nozzle provides a full (Solid) cone pattern in a narrow angle with uniform droplet distribution.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Uses an Internal vane design to produce a solid cone shaped spray pattern.
- Spray Nozzle body and deflector are made of Brass conforming to CuZn39Pb3 - ASTM B455 C38500. 1
- Suitable for a maximum working pressure of 250 psi (17.2 bar).
- This Nozzle is ideal for exposure protection and to fight fuel fires.

Nozzle may be installed in any position as per design requirements.

1. Also available in SS316 construction.
2. Blow off caps available (dust cap) as optional.
3. Strainer available as optional.
4. Finish: Available in natural brass and electroplated finishes.

SPECIFICATION

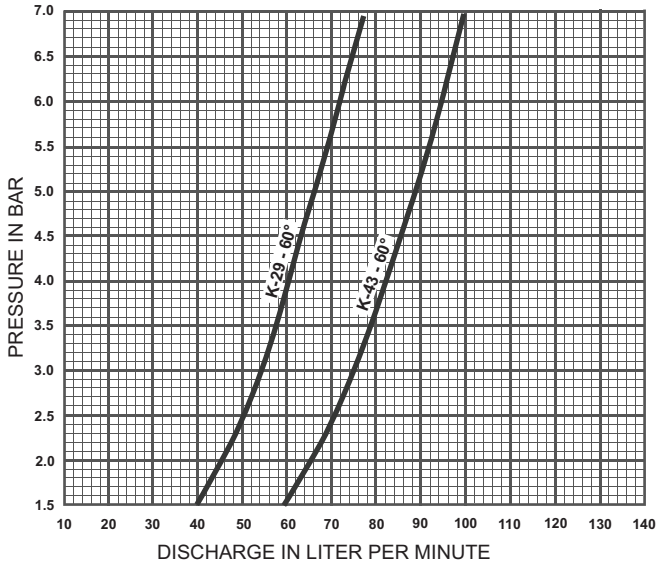
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Effective Working Pressure Minimum bar / psi	Dimensions	
				dia mm/in	Overall Length mm/in
25	60°	29	1.4	25 - NPT	42
1	60°	2.0	20	1 - NPT	1.65
25	60°	43	1.4	25 - NPT	42
1	60°	3.0	20	1 - NPT	1.65

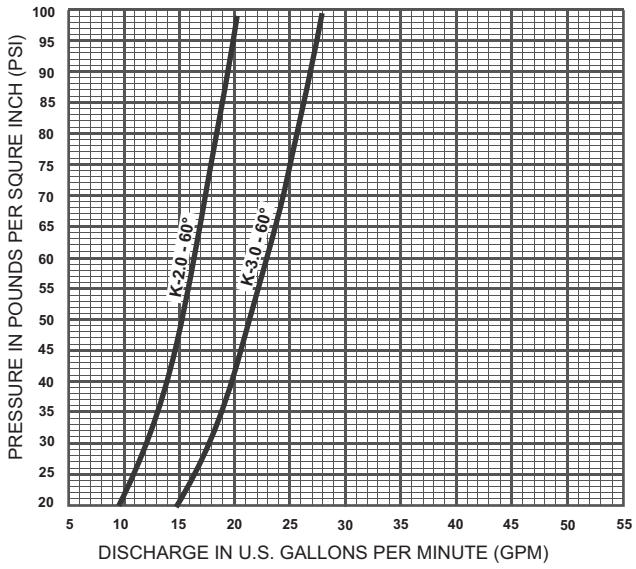
GENERAL DESCRIPTION

The Model 230NC Nozzles are open directional spray nozzles. They are designed to be used in waterspray fixed fire protection systems which are designed as per NFPA 15.

As water passes through the internal swirl deflector, a swirling action is produced resulting in a full solid conical spray pattern. High velocity type nozzles are used for the protection of hazards such as transformers, oil fired boilers etc. These nozzles due to their fine droplet size are capable of extinguishing oil fire by emulsification. Emulsification is a process by which oil surface is broken down into small globules of water & oil which is incapable of sustaining a fire. The surface cooling effect of this nozzle also minimises the possibility of re-ignition after the fire has been extinguished. Nozzles may be applied to control or extinguish fire of the protected area depending on the design application density. If the Nozzles are used outdoors the recommended minimum working pressure shall be 30 psi.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Model 230 MC

UL LISTED EX26456

HIGH VELOCITY
MEDIUM COVERAGE STANDARD FULL CONE

- Fluid spray nozzle provides a full (Solid) cone pattern in a medium angle with uniform droplet distribution.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Uses an Internal vane design to produce a solid cone shaped spray pattern.
- Spray Nozzle body and deflector are made of Brass conforming to CuZn39Pb3 - ASTM B455 C38500. [1]
- Suitable for a maximum working pressure of 250 psi (17.2 bar).
- This Nozzle is ideal for exposure protection and to fight fuel fires.

Nozzle may be installed in any position as per design requirements.

1. Also available in SS316 construction.
2. Blow off caps available (dust cap) as optional.
3. Strainer available as optional.
4. Finish: Available in natural brass and electroplated finishes.

SPECIFICATION

Pipe Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Effective Working Pressure Min / Max bar / psi	Dimensions	
				dia mm/in	Overall Length mm/in
* 25	90°	17	1.4	25 - NPT	42
* 1	90°	1.2	20	1 - NPT	1.65
25	90°	23	1.4	25 - NPT	42
1	90°	1.6	20	1 - NPT	1.65
25	90°	33	1.4	25 - NPT	42
1	90°	2.3	20	1 - NPT	1.65
25	90°	36	1.4	25 - NPT	42
1	90°	2.5	20	1 - NPT	1.65

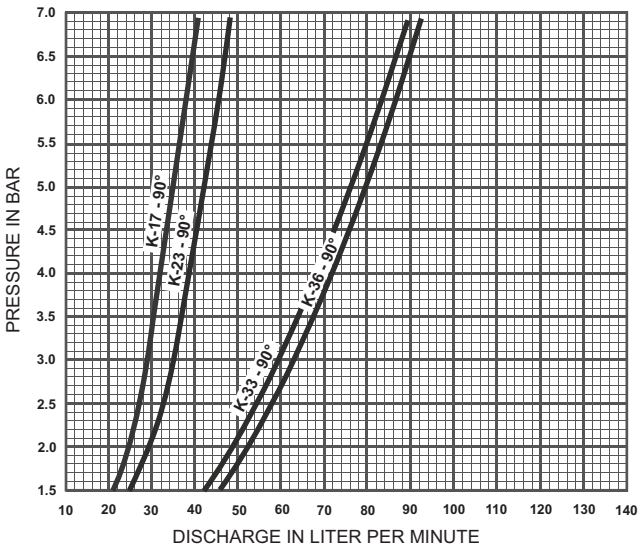
* Nozzle Fitted with Strainer as Standard

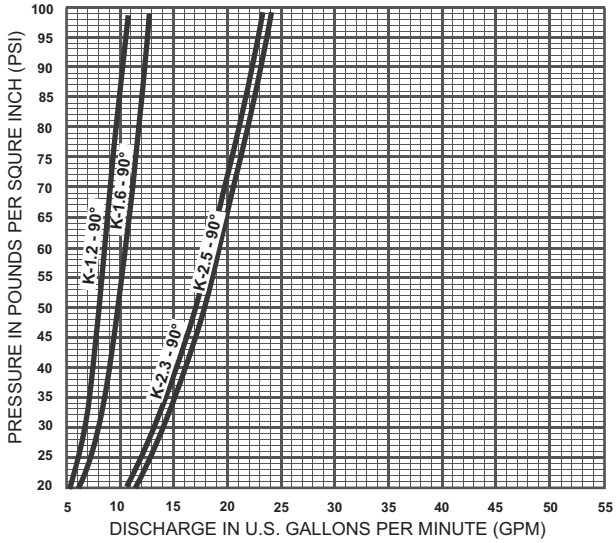
GENERAL DESCRIPTION

The Model 230MC Nozzles are open directional spray nozzles. They are designed to be used in waterspray fixed fire protection systems which are designed as per NFPA 15.

As water passes through the internal swirl deflector, a swirling action is produced resulting in a full solid conical spray pattern. High velocity type nozzles are used for the protection of hazards such as transformers, oil fired boilers etc. These nozzles due to their fine droplet size are capable of extinguishing oil fire by emulsification. Emulsification is a process by which oil surface is broken down into small globules of water & oil which is incapable of sustaining a fire. The surface cooling effect of this nozzle also minimises the possibility of re-ignition after the fire has been extinguished. Nozzles may be applied to control or extinguish fire of the protected area depending on the design application density. If the Nozzles are used outdoors the recommended minimum working pressure shall be 30 psi.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Model 230 WC

UL LISTED EX26456

HIGH VELOCITY
WIDE COVERAGE STANDARD FULL CONE

- Fluid spray nozzle provides a full (Solid) cone pattern in wide angle with uniform droplet distribution.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Uses an Internal vane design to produce a solid cone shaped spray pattern.
- Spray Nozzle body and deflector are made of Brass conforming to CuZn39Pb3 - ASTM B455 C38500. 1
- Suitable for a maximum working pressure of 250 psi (17.2 bar).
- This Nozzle is ideal for exposure protection and to fight fuel fires.

Nozzle may be installed in any position as per design requirements.

1. Also available in SS316 construction.
2. Blow off caps available (dust cap) as optional.
3. Strainer available as optional.
4. Finish: Available in natural brass and electroplated finishes.

SPECIFICATION

Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Effective Working Pressure Minimum bar / psi	Dimensions	
				dia mm/in	Overall Length mm/in
* 25	120°	23	1.4	25 - NPT	42
* 1	120°	1.6	20	1 - NPT	1.65
25	120°	33	1.4	25 - NPT	42
1	120°	2.3	20	1 - NPT	1.65

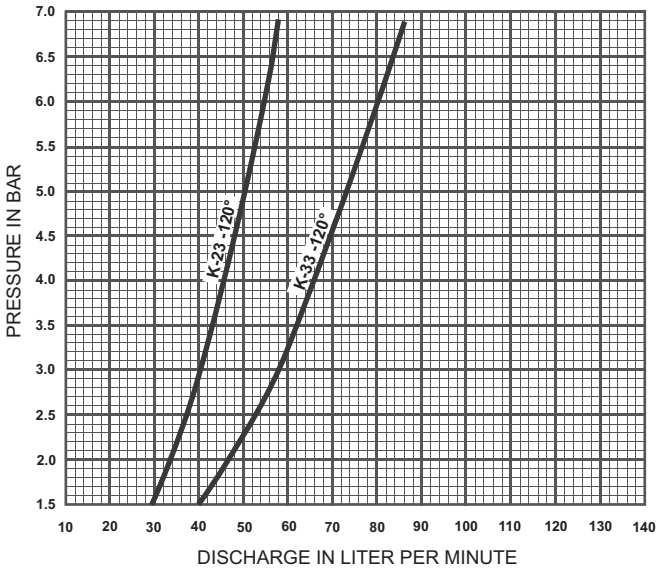
* Nozzle fitted with strainer as standard.

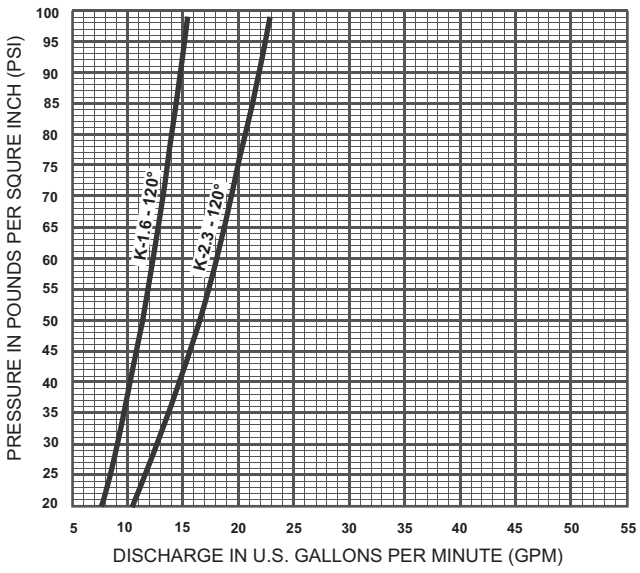
GENERAL DESCRIPTION

The Model 230WC Nozzles are open directional spray nozzles. They are designed to be used in waterspray fixed fire protection systems which are designed as per NFPA 15.

As water passes through the internal swirl deflector, a swirling action is produced resulting in a full solid conical spray pattern. High velocity type nozzles are used for the protection of hazards such as transformers, oil fired boilers etc. These nozzles due to their fine droplet size are capable of extinguishing oil fire by emulsification. Emulsification is a process by which oil surface is broken down into small globules of water & oil which is incapable of sustaining a fire. The surface cooling effect of this nozzle also minimises the possibility of re-ignition after the fire has been extinguished. Nozzles may be applied to control or extinguish fire of the protected area depending on the design application density. If the Nozzles are used outdoors the recommended minimum working pressure shall be 30 psi.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

WARNING

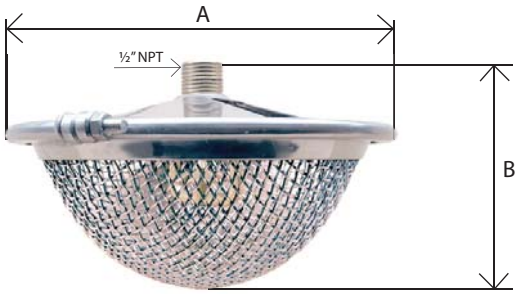
The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Model F226

FOAM SPRAY NOZZLES

UL LISTED EX27918

- Directional Spray Nozzle with cone shaped spray pattern.
- Spray Nozzles are designed to produce extremely uniform coverage.
- Spray Nozzle Yoke is made of Brass conforming to CuZn36Pb2AS - ASTM B455 C38500.
- Suitable for a maximum working pressure of 175 psi (12 bar).
- Many orifice sizes and angles are available.
- Also available in SS316 Nozzle construction.



Nozzle shown in pendent position for clarity, may be installed in any position as per design requirements.

Description	Material of Construction
Yoke	Brass
Deflector	Brass
Splitter	Brass
Screen	Stainless Steel

SPECIFICATION

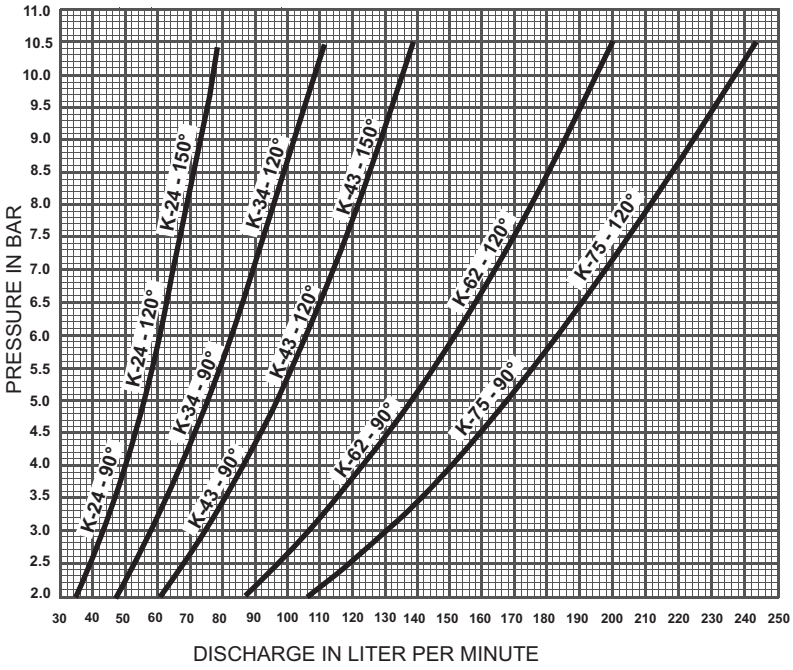
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Orifice mm / in	Effective Working Pressure Minimum bar / psi	Dimensions		Weight Kg / Lbs	Approval
					A mm/in	B mm/in		
15	120°	24	7.5	1.4	197	108.3	0.60	-
½	120°	1.70	19/64	20	7.8	4.3	1.32	-
15	120°	34	8.0	1.4	197	108.3	0.60	-
½	120°	2.4	5/16	20	7.8	4.3	1.32	-
15	120°	43	9.7	1.4	197	108.3	0.60	UL
½	120°	3.0	3/8	20	7.8	4.3	1.32	UL
15	120°	62	11.2	1.4	197	108.3	0.60	-
½	120°	4.3	7/16	20	7.8	4.3	1.32	-
15	120°	75	12.0	1.4	197	108.3	0.60	UL
½	120°	5.2	15/32	20	7.8	4.3	1.32	UL

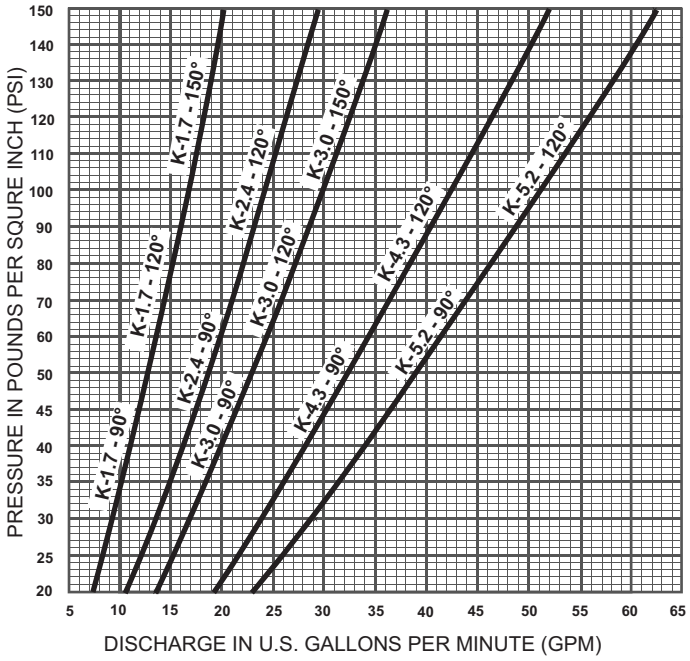
• Finish: Available in natural brass and electroplated finishes.
• Accessories: Nozzle Cap and Spanner are available.
• For flow details refer flow curves.

SPRAY NOZZLES

Model F226

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle. Make sure that deflector is not bent or damaged.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

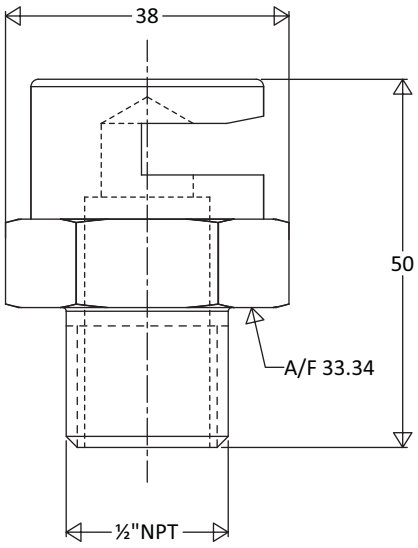
WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

Model 214

TANK SPRAY NOZZLE / CURTAIN NOZZLE

- The Tank Spray Nozzle is designed for use of water spray on the tank wall of fuel storage tanks.
- Nozzle body is made of Brass conforming to CUZn39Pb3 - ASTM B455 C38500.
  Also available in SS316 Construction and Electroplated Finish.
- Suitable for a maximum working pressure of 175 psi (12 bar).
- Extinguishing Agent: Freshwater, Seawater or Foam.



The Tank Spray Nozzle is designed for use on the tank wall of fuel storage tanks. They can be used as cooling nozzles to prevent structural damage to tanks during a fire or alternatively may be used to combat fires in areas such as floating roof storage tanks. They can also be used to protect cable tray, pipe racks and Ideal for exposure protection.

The Tank Spray spray nozzle is ideally suited to the protection of assets such as storage tank shells and roofs. This is due to its cooling effects, achieved through the production of a wide angle flat fan spray with direct impingement and "wall run down" of water. The Tank Spray nozzle is available in a range of bore sizes and materials. For cooling purposes the media will normally be fresh water or seawater.

SPECIFICATION

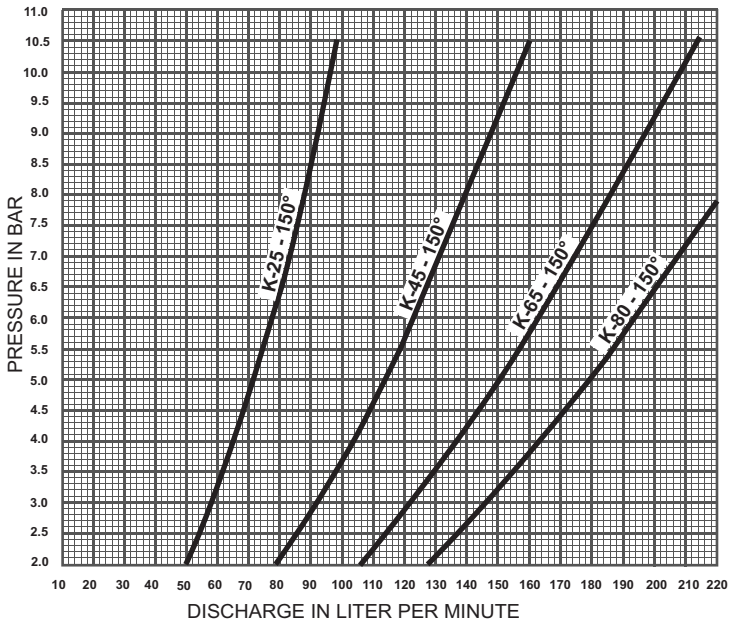
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Effective Working Pressure Minimum bar / psi	Dimensions	
				dia mm/in	Overall Length mm/in
15	150°	25	1.4	15 - NPT	50
1/2	150°	1.74	20	1/2 - NPT	1 15/16
15	150°	45	1.4	15 - NPT	50
1/2	150°	3.13	20	1/2 - NPT	1 15/16
15	150°	65	1.4	15 - NPT	50
1/2	150°	4.14	20	1/2 - NPT	1 15/16
15	150°	80	1.4	15 - NPT	50
1/2	150°	5.86	20	1/2 - NPT	1 15/16

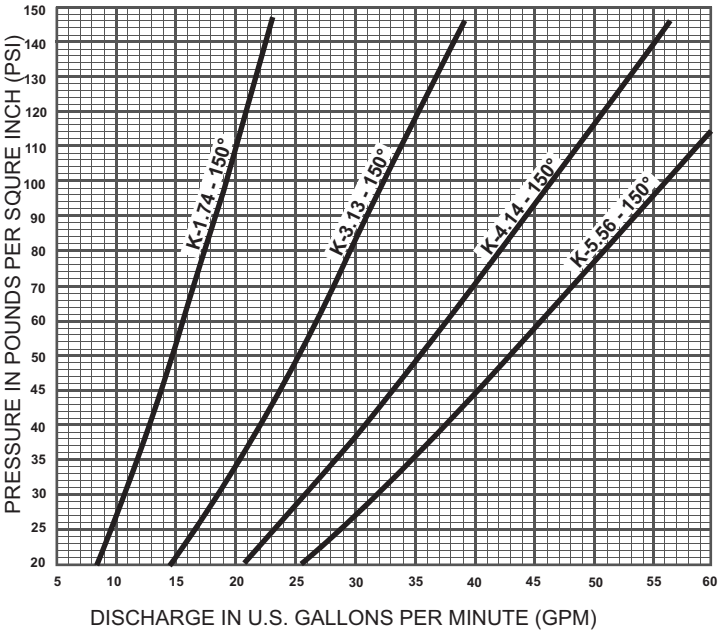
TANK SPRAY NOZZLE

Model 214

SPRAY NOZZLES

DISCHARGE CURVE

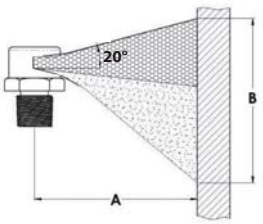




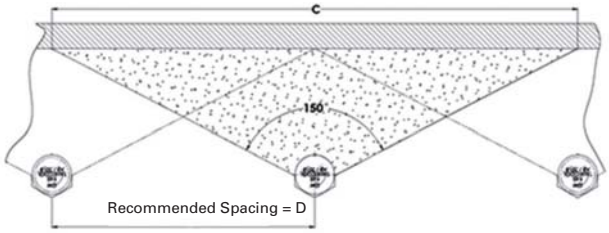
SPRAY PATTERN

A max = 600 mm
B = 0.75 x A
C = 7.50 x A
D = 5.00 x A

Side view



Top view



INSTALLATION

- Nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle. Make sure that deflector is not bent or damaged.
- Install dust caps or blow off caps (if used).

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required.The owner is responsible for maintaining the spray system to ensure that it performs properly as Intended.

WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

FLUID®
Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

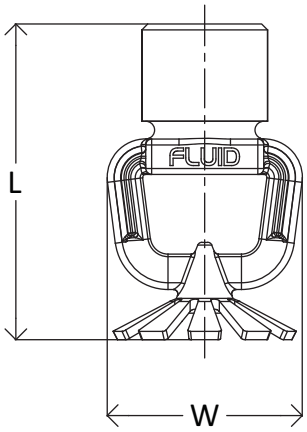
Model 215

WATER MIST NOZZLE

- Low pressure water mist nozzle.
- Spray Nozzles are designed to produce extremely uniform coverage with fine water droplets.
- Spray Nozzle Yoke is made of Stainless Steel.
- Suitable for a maximum working pressure of 235 psi (16 bar).
- Built in Strainer.
- Suitable for sea water & fresh water.
- Available in low flow K8 & K13 K-Factors.

MATERIAL OF CONSTRUCTION

Description	Material of Construction
Yoke	Stainless Steel ASTM A351 CF8M
Deflector	Stainless Steel 316



Nozzle shown in pendent position for clarity, may be installed in any position as per design requirements.

SPECIFICATION

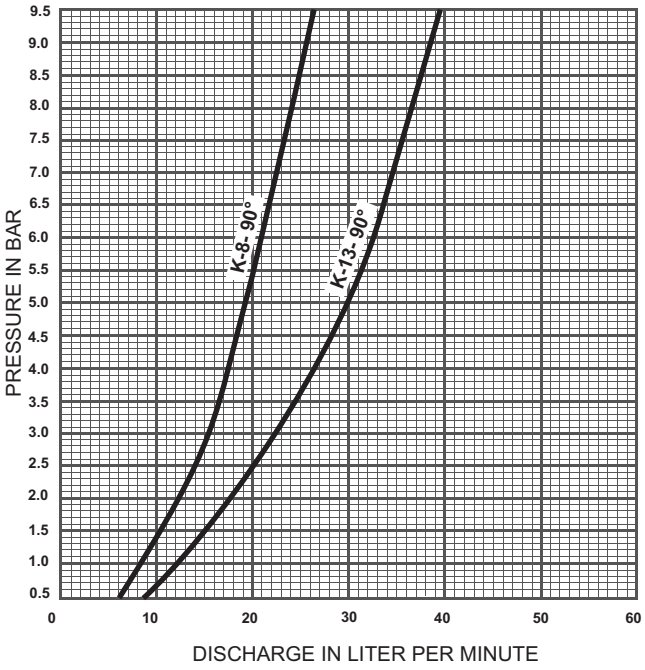
Size mm / in	Discharge Angle Deg.	Discharge Coefficient K	Effective Working Pressure bar / psi	L mm / in	W mm / in
15	90°	8	7 - 16	53.5	33.0
½	90°	0.60	101.5 - 232	2.11	1.30
15	90°	13	7 - 16	53.5	33.0
½	90°	0.9	101.5 - 232	2.11	1.30

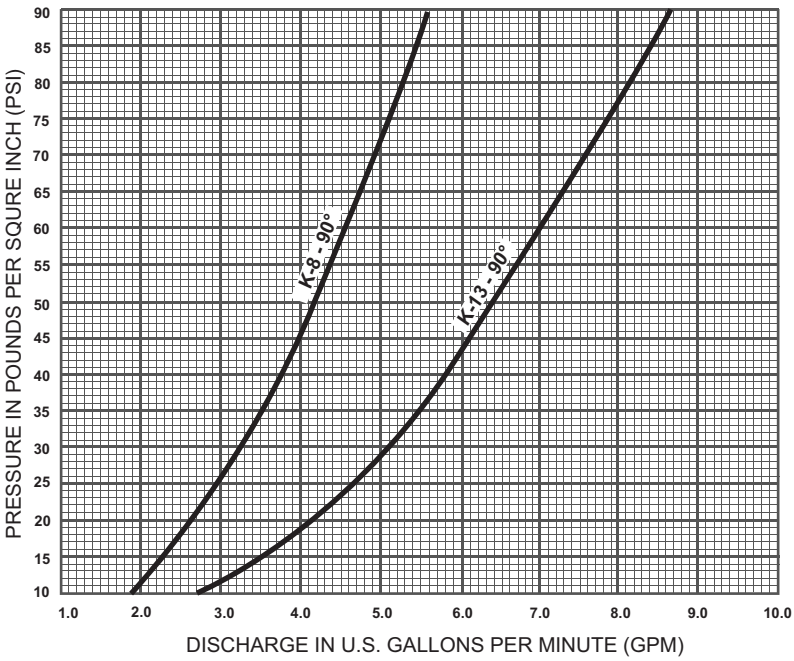
- Finish: Available in natural brass and electroplated finishes.
- Accessories: Nozzle Cap and Spanner are available.

APPLICATIONS

The Model 215 Nozzle is a low pressure water mist nozzle designed for a large variety of applications and hazards. They are designed for installation in dry pipe systems. The nozzles are designed to produce a fine mist of small water droplets. The nozzles are filled with blow off protection caps. The caps protect the nozzles after installation and automatically blow off due to pressure in the pipe work during discharge.

DISCHARGE CURVE





INSTALLATION

- Spray nozzles must be installed after the piping is in place to prevent mechanical damage.
- Before installing be sure to have the appropriate model, correct k-factor etc.
- Apply a small amount of thread sealant or tape to the external threads of the spray nozzle only, hand tighten the nozzle into the nozzle pipe fitting in the pipe work.
- Tighten the nozzle using an adjustable crescent wrench on the nozzle wrench hex. Do not over tighten, which may distort the nozzle inlet and cause impairment to nozzle. Make sure that deflector is not bent or damaged.
- Install dust caps or blow off caps which are supplied with the nozzles.

CARE AND MAINTENANCE

Care must be exercised to avoid damage to the nozzles. For minimum maintenance and inspection requirements refer to NFPA25. In addition the authority having jurisdiction may have additional maintenance, testing and inspection requirements. Frequent visual inspections are required where nozzles are installed in potentially corrosive areas. The nozzle is to be cleaned or replaced if required. The owner is responsible for maintaining the spray system to ensure that it performs properly as intended.

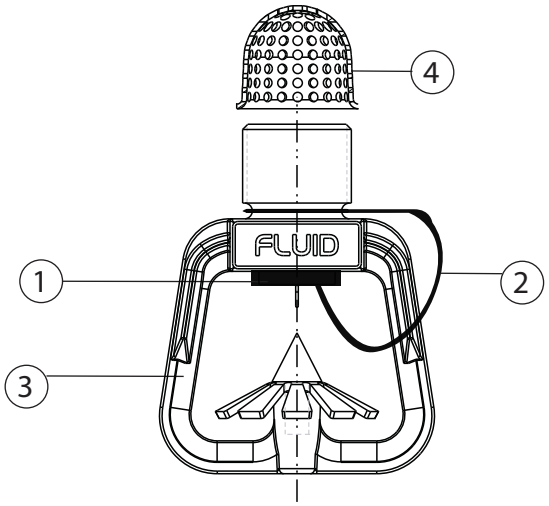
WARNING

The design of these water spray fixed systems must only be performed by experienced designers who understand the capabilities and limitation of these nozzles. These nozzles must be installed in accordance to applicable NFPA standards. Deviations from these standards or any alteration to the Nozzle after it leaves the factory including, but not limited to: painting, plating, coating or modification may render the unit in operative and will automatically nullify the approval and any guarantee made by Fluid.

BLOW OFF PLUGS, CAPS & STRAINERS

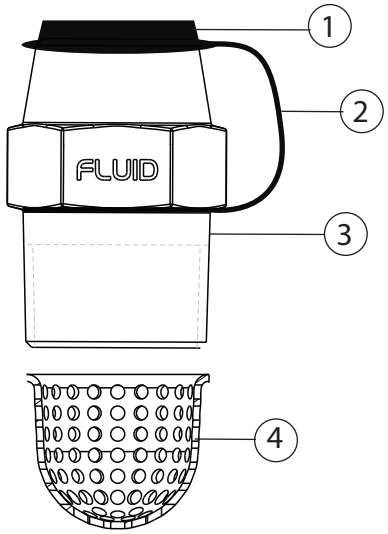
GENERAL DESCRIPTION

Blow-off plug and dust caps Dust caps are used in applications where protection is required against accumulation of debris with in the orifice of an open Nozzle. Blow off plugs are used in model 212 Nozzle and Blow off caps are used in Model 230 Nozzle.



Model 212 with blow off plug & Strainer

1. Blow Off Plug
2. Stainless Steel Wire
3. Model 212 Nozzle
4. Strainer



Model 230 with blow off cap & Strainer

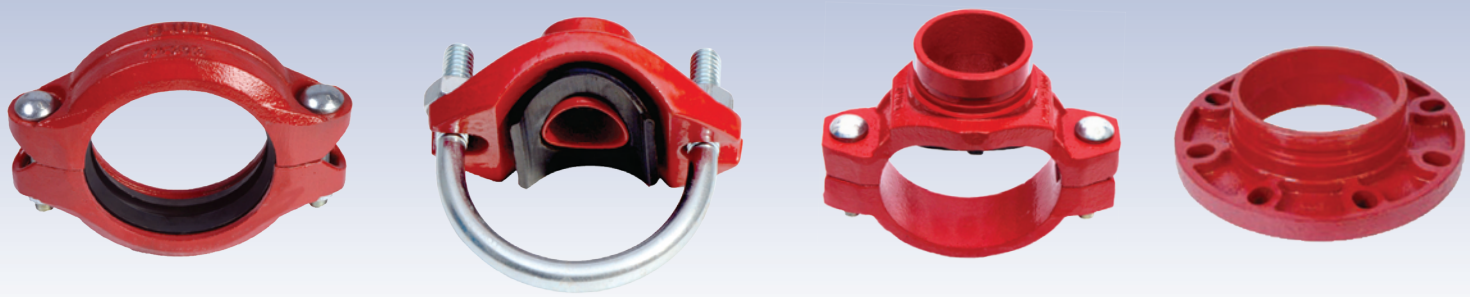
1. Blow Off Cap
2. Stainless Steel Wire
3. Model 230 Nozzle
4. Strainer

SPECIFICATION

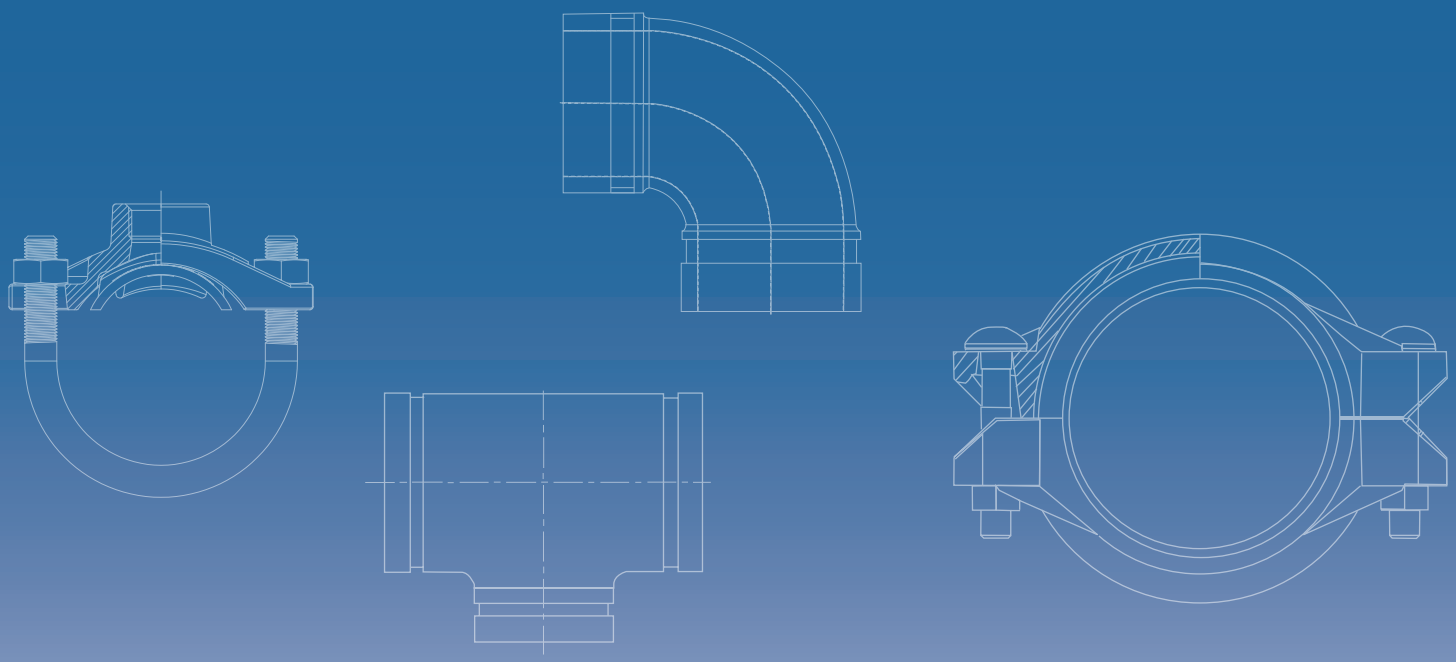
The dust caps and blow off plug are rated for indoor and outdoor use for a temperature range of 0°C to 65°C. A minimum flowing pressure of 1 bar is required to assure release of the dust cap/blow off plug. The blow off Cap/Plug prevents the accumulation of foreign matter in the nozzle orifice which could interfere with the discharge. The blow off Plug/Cap is attached to the nozzle by means of stainless steel wire periodic inspection of the cap and nozzle is recommended for proper nozzle performance. Blow off Plug/Cap are available as separate items for use as replacement parts. Model 212 all sprayers can be provided with plugs. Model 230 all nozzles can be provided with blow off caps. Strainer can be added for all Models 212 & 230 Nozzles. These are accessories and are to be ordered along with the Nozzles if required.

FLUID EQUIPMENT INTERNATIONAL LTD.

FIRE PROTECTION



FITTINGS



FLUID®

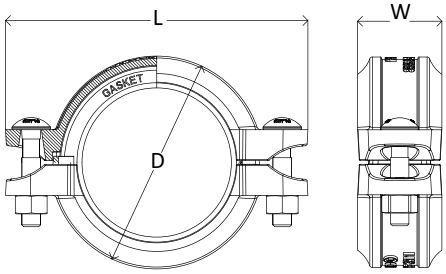
UL® REGISTERED FIRM

Style 311

RIGID COUPLING

UL LISTED

- Fluid Style 311 Rigid Grooved Coupling features higher pressure ratings.
- Fluid coupling provides better rigid connections for valves, fire mains, long straight runs etc.
- Coupling Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 52 Bar / 750 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Couplings are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.
- Also suitable for Dry pipe application such as Deluge, CO2, Clean agent etc.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions			Weight kg / Lbs
			L mm / in	W mm / in	D mm / in	
25	33.4	52	98	46	57.2	0.57
1	1.31	750	3.86	1.81	2.25	1.2
32	42.2	52	108	46	66	0.58
1¼	1.66	750	4.25	1.81	2.60	1.3
40	48.3	52	114	46	72	0.68
1½	1.90	750	4.49	1.81	2.83	1.5
50	60.3	52	127	46	85	0.74
2	2.37	750	5.00	1.81	3.35	1.6
65	76.1	52	141	46	96	0.88
2½	2.87	750	5.55	1.81	3.78	1.9
65	76.1	52	144	46	99	0.89
3OD	3.50	750	5.67	1.81	3.90	1.9
80	88.9	52	162	46	114	1.08
3	3.50	750	6.38	1.81	4.49	2.4
100	114.3	35	184.5	50.5	145	1.49
4	4.50	500	7.26	1.99	5.71	3.3
150	168.3	28	255	50.5	202.5	2.50
6	6.63	400	10.04	1.99	7.97	5.51
150	165.1	28	252	50.5	199.5	2.47
6.5OD	6.50	400	9.92	1.99	7.85	5.45
200	219.1	20	326	58.5	258	4.32
8	8.63	300	12.83	2.30	10.16	9.52
250	273.0	20	405	65	320	8.56
10	10.75	300	15.94	2.56	12.60	18.9
300	323.5	20	465	65	376.5	10.59
12	12.75	300	18.31	2.56	14.82	23.3

PRESSURE TEMPERATURE RATING

Pipe Type	Grooved Type	Maximum Working Pressure	EPDM Gasket Service Temperature
EN10255 M/H	Roll	20 Bar 300 PSI	-34°C to 110°C -30°F to 230°F
Sch.40	Roll	35 Bar 500 PSI	-34°C to 110°C -30°F to 230°F

RIGID COUPLING

Style 311

HOUSING

Fluid Coupling Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are oval neck track head made of carbon steel confirming to ASTM A183 Gr. 2 and heavy duty Nuts.
The bolts and Nuts are electro zinc plated with white passivation.

Chemical & Physical Properties of Bolts

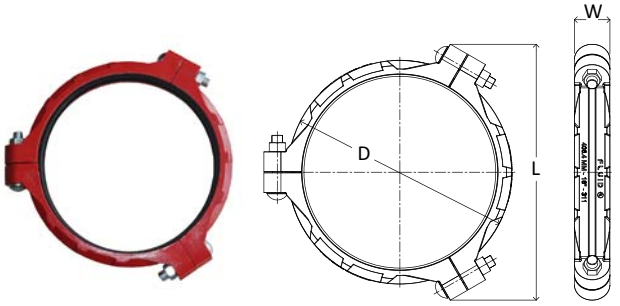
Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

Style 311

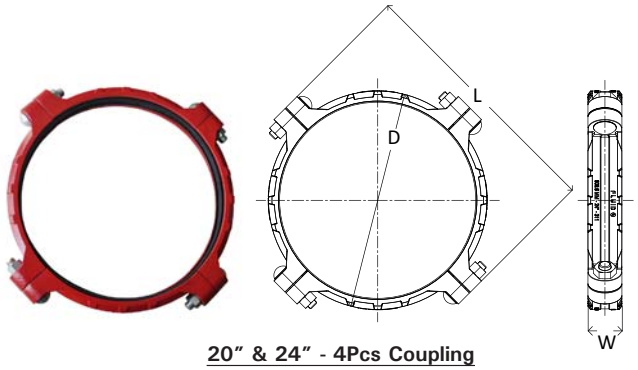
UL LISTED EX15827

RIGID COUPLING

- Fluid Style 311 Rigid Grooved Coupling features moderate pressure ratings with lighter weights.
- Fluid coupling provides better rigid connections for valves, fire mains, long straight runs etc.
- Coupling Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 20 Bar / 300 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Couplings are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



14", 16" & 18" - 3Pcs Coupling



20" & 24" - 4Pcs Coupling

SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure[1] Bar / PSI	Dimensions			Weight kg / Lbs	Approval
			L mm / in	W mm / in	D mm / in		
350	355.6	20	484	73	406	16.8	UL
14	14	300	19.05	2.87	15.98	37.03	UL
400	406.4	20	526	73	460	19.0	UL
16	16	300	20.70	2.87	18.11	41.88	UL
450	457.2	20	573	78	516.50	24.0	-
18	18	300	22.55	3.07	20.33	52.91	-
500	508	20	683.5	78	565	31.8	-
20	20	300	26.91	3.07	22.24	70.10	-
600	609.6	20	783	78	664	34.9	UL
24	24	300	30.82	3.07	26.14	76.94	UL

* At 2 feet between supports

PRESSURE TEMPERATURE RATING

Pipe Type	Grooved Type	Maximum Working Pressure	EPDM Gasket Service Temperature
EN10255 M/H	Roll	20 Bar 300 PSI	-34°C to 110°C -30°F to 230°F
Sch.40	Roll	35 Bar 500 PSI	-34°C to 110°C -30°F to 230°F

RIGID COUPLING

Style 311

HOUSING

Fluid Coupling Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are oval neck track head made of carbon steel confirming to ASTM A183 Gr. 2 and heavy duty Nuts.
The bolts and Nuts are electro zinc plated with white passivation.

Chemical & Physical Properties of Bolts

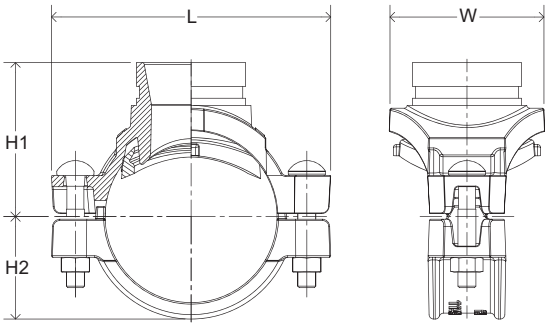
Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

Style 300

UL LISTED EX15827

GROOVED MECHANICAL TEE

- Fluid Style 300 Grooved Mechanical Tee is designed for quick and economical connection of smaller branch pipes with Cross Mains or Riser Pipes.
- Mechanical Tee eliminates need for welding or cutting of the pipe mains for branch outlets. It allows quick installation with easy procedure of hole cut at desired outlet location and two track head bolts tightening.
- Groove dimensions confirm to AWWA C606.
- Mechanical Tee housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Mechanical Tees are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanized finish is available upon request.



SPECIFICATION

Nominal Size Run x Branch mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI			Dimensions				Weight kg / Lbs	Approval
		Sch. 40	Sch. 10	EN 10255	L mm / in	H1 mm / in	H2 mm / in	W mm / in		
80 x 40	88.9 X 48.3	35	-	-	160	95	53	99.2	2.19	-
3 x 1½	3.5 X. 37	500	-	-	6.3	3.74	2.08	3.91	4.83	-
80 X 50	88.9 X 60.3	35	-	-	160	95	53	97	2.30	UL
3 X 2	3.50X 2.37	500	-	-	6.30	3.74	2.08	3.81	5.05	UL
100 X 50	114.3 X 60.3	28	20	20	186.8	103	68.5	102.9	2.35	UL
4 X 2	4.500 X 2.375	400	300	300	7.35	4.06	2.70	4.05	5.18	UL
100 X 65	114.3 X 73	28	20	NA	186.8	103	68.5	102.9	2.52	UL
4 X 2½	4.500 X 2.875	400	300	NA	7.35	4.06	2.70	4.05	5.55	UL
100 X 80	114.3 X 88.9	35	-	-	186.8	103	68.5	121	2.89	UL
4 X 3	4.5 X 3.5	500	-	-	7.35	4.06	2.70	4.76	6.37	UL
150 X 50	168.3 X 60.3	28	20	NA	243.9	132.10	94.6	120	3.89	UL
6 X 2	6.625 X 2.375	400	300	NA	9.60	5.20	3.72	4.72	8.57	UL
150 X 65	168.3 X 73	28	20	NA	243.9	132.10	94.6	120	4.26	UL
6 X 2½	6.625 X 2.875	400	300	NA	9.60	5.20	3.72	4.72	9.39	UL
150 x 80	168.3 x 88.9	20	-	-	244	132.1	94.6	125	4.36	-
6 x 3	6.62 x 3.5	300	-	-	9.60	5.2	3.72	4.92	9.61	-
150 X 100	168.3 X 114.3	20	-	-	243.9	132.10	94.6	163	5.25	UL
6 X 4	6.625 X 4.5	300	-	-	9.60	5.20	3.72	6.42	11.57	UL
200X 50	219.1 X 60.3	20	-	-	320	164	123.3	128	6.10	UL
8 X 2	8.625 X 2.375	300	-	-	12.59	6.45	4.85	5.04	13.44	UL
200 X 65	219.1 X73	20	-	-	320	164	123.3	128	6.25	UL
8 X 2½	8.625 X 2.875	300	-	-	12.59	6.45	4.85	5.04	13.77	UL

GROOVED MECHANICAL TEE

Style 300

HOUSING

Fluid Mechanical Tee Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.03%	0.03% - 0.06%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 as per AWWA C606 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %	Service Temp
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%	-34°C t0 105°C -30°F to 221°F

BOLTS AND NUTS

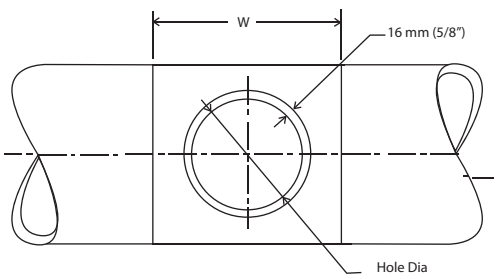
Fluid Bolts are oval neck track head made of carbon steel confirming to ASTM A183 Gr.2 / ISO 8.8 and Nuts are heavy duty.
The bolts and Nuts are galvanized.

Chemical & Physical Properties of Bolts

Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

HOLE CUTTING DETAILS

Mechanical Tee Branch Size mm / in	Hole Saw Dia. mm / in	W Dimension mm / in
50	64	114.3
2	2½	4½
65	70/76.2	121
2½	2¾/3	4¾
80	89	140
3	3½	5½



FLUID®
Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

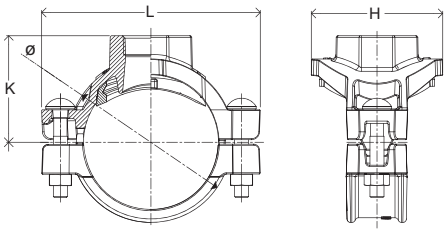
www.fluid-equipment.com

Style 305

THREADED MECHANICAL TEE

UL LISTED EX15827

- Fluid Style 305 Threaded Mechanical Tee is designed for quick and economical connection of smaller branch pipes with Cross Mains or Riser Pipes.
- Mechanical Tee eliminates need for welding or cutting of the pipe mains for branch outlets. It allows quick installation with easy procedure of hole cut at desired outlet location and two track head bolts tightening.
- Outlet threads are female BSPT as standard. NPT threads can be provided as optional.
- Mechanical Tee housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Mechanical Tees are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size Run x Branch mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Hole Saw Dia. Mm/in	Dimensions				Weight kg / Lbs	Approval
				ø mm / in	L mm / in	K mm / in	H mm / in		
40x25	48.3x33.7	35	34	71	105	53	60	0.76	UL
1½x1	1.90x1.32	500	1.34	2.79	4.13	2.08	2.36	1.68	UL
50x25	60.3x33.7	35	45	87	124	65	74	1.35	UL
2x1	2.375x1.32	500	1.75	3.44	4.88	2.56	2.91	2.97	UL
50x32	60.3x42.4	35	45	87	124	65	74	1.30	UL
2x1¼	2.37x1.67	500	1.75	3.44	4.88	2.56	2.91	2.86	UL
50x40	60.3x48.3	35	45	87	124	65	74	1.20	UL
2x1½	2.37x1.90	500	1.75	3.44	4.88	2.56	2.91	2.64	UL
65x25	73x33.7	35	45	96	143	75	84	1.28	UL
2½x1	2.87x1.32	500	1.75	3.78	5.63	2.95	3.30	2.82	UL
65x32	73x42.4	35	45	96	143	75	84	1.20	UL
2½x1¼	2.87x1.67	500	1.75	3.78	5.63	2.95	3.30	2.64	UL
65x40	73x48.3	35	45	98	143	75	84	1.30	UL
2½x1½	2.87x1.90	500	1.75	3.87	5.63	2.95	3.30	2.86	UL
65x50	73x60.3	35	51	98	143	75	90	1.60	-
2½x2	2.87x2.37	500	2.00	3.87	5.63	2.95	3.54	3.53	-
80x25	88.9x33.7	35	51	117	160	81	94	1.95	UL
3x1	3.50x1.32	500	2.00	4.60	6.30	3.19	3.68	4.29	UL
80x32	88.9x42.4	35	51	117	160	81	94	1.91	UL
3x1¼	3.50x1.67	500	2.00	4.60	6.30	3.19	3.68	4.21	UL
80x40	88.9x48.3	35	64	117	160	81	99.5	2.20	UL
3x1½	3.50x1.90	500	2.48	4.60	6.30	3.19	3.92	4.85	UL
80x50	88.9x60.3	35	64	117	160	81	99.5	2.00	UL
3x2	3.50x2.37	500	2.48	4.60	6.30	3.19	3.92	4.41	UL
100x25	114.3x33.7	35	51	144	186.8	91	93	2.30	UL
4x1	4.50x1.32	500	2.00	5.68	7.35	3.58	3.68	5.07	UL
100x32	114.3x42.4	35	51	144	186.8	91	93	2.17	UL
4x1¼	4.50x1.67	500	2.00	5.68	7.35	3.58	3.68	4.78	UL
100x40	114.3x48.3	35	64	144	186.8	91	112	2.51	UL
4x1½	4.50x1.90	500	2.48	5.68	7.35	3.58	4.42	5.53	UL
100x50	114.3x60.3	35	64	144	186.8	91	112	2.45	UL
4x2	4.50x2.37	500	2.52	5.68	7.35	3.58	4.42	5.40	UL
150x25	168.3x33.7	35	51	200.4	244	130	92.8	3.76	UL
6x1	6.62x1.32	500	2.00	7.89	9.60	5.12	3.65	8.29	UL
150x32	168.3x42.4	35	51	200.4	244	130	92.8	3.67	UL
6x1¼	6.62x1.67	500	2.00	7.89	9.60	5.12	3.65	8.10	UL
150x40	168.3x48.3	35	64	200.4	244	130	112	4.18	UL
6x1½	6.62x1.90	500	2.52	7.89	9.60	5.12	4.41	9.21	UL
150x50	168.3x60.3	35	64	200.4	244	130	112	4.13	UL
6x2	6.62x2.37	500	2.52	7.89	9.60	5.12	4.41	9.10	UL
150x65	168.3x73	20	70	200.4	244	130	114	4.27	-
6x2½	6.62x2.87	300	2.75	7.90	9.60	5.10	4.50	9.41	-

THREADED MECHANICAL TEE

Style 305

Nominal Size Run x Branch mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Hole Saw Dia. Mm/in	Dimensions			Weight kg / Lbs	Approval
				L mm / in	K mm / in	H mm / in		
200X25	219.1 X 33.7	20	51	320	157	95	5.65	UL
8X1	8.32 X 1.32	300	2.0	12.60	6.18	3.74	12.46	UL
200X32	219.1 X 42.4	20	51	320	157	95	5.57	UL
8X1¼	8.32 X 1.67	300	2.0	12.60	6.18	3.74	12.28	UL
200X40	219.1 X 48.3	20	64	320	157	127	6.14	UL
8X1½	8.32 X 1.90	300	2.5	12.60	6.18	5.00	13.54	UL
200X50	219.1 X 60.3	20	64	320	157	127	5.93	UL
8X2	8.32 X 2.37	300	2.5	12.60	6.18	5.00	13.07	UL
200X65	219.1 X 73.0	20	76.2	320	157	127	6.12	-
8X2½	8.32 X 2.87	300	3.0	12.60	6.18	5.00	13.49	-
250X40	273 X 48.3	20	64	375	185	132	8.15	-
10X1½	10.75 X1.90	300	2.5	14.76	7.28	5.19	17.97	-
250X50	273 X 60.3	20	64	375	185	132	7.88	-
10X2	10.75 X 2.37	300	2.5	14.76	7.28	5.19	17.37	-

HOUSING

Fluid Mechanical Tee Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical & Physical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphar S	Magnesium Mg	Chromium Cr	Minimum Tensile Strength	Minimum Yield Strength
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.06%	0% - 0.1%	448 MPa 65,000 PSI	310 MPa 45,000PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

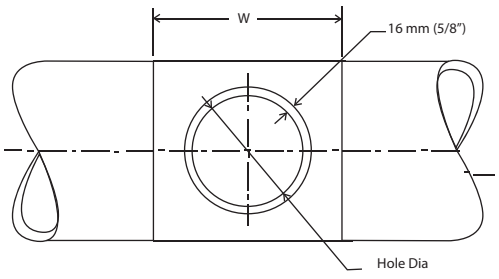
Fluid Bolts are oval neck track head made of carbon steel confirming to ISO 8.8 and Nuts are heavy duty manufactured.
The bolts and Nuts are galvanized.

Chemical & Physical Properties of Bolts

Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

HOLE CUTTING DETAILS

Mechanical Tee Branch Size (mm / in)	Hole Saw Dia. (mm / in)	W Dimension (mm / in)
25	38	88.9
1	1½	3½
32	46	101.6
1¼	1⅞	4
40	46	101.6
1½	1⅞	4
50	64	114.3
2	2½	4½
65	70/16.2	121
2½	2¾/3	4¾

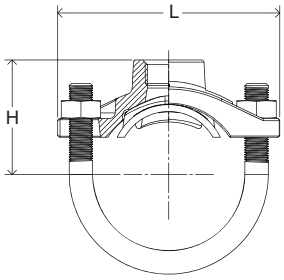


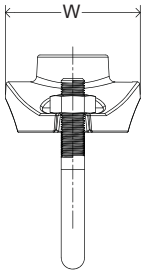
Style 309

SPRINKLER OUTLET

UL LISTED EX15827

- Fluid Style 309 Sprinkler Outlet is designed for direct connection of sprinkler heads, pressure gauges, drop nipple or arm over pipe with length up to 610 mm / 2 Feet as per NFPA 13.
- Sprinkler Outlets eliminates need for welding or cutting of the pipes for branch outlets. It allows quick installation with easy procedure of hole cut and U bolt tightening on sprinkler mains or branch pipes at desired outlet location.
- Sprinkler Outlet housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Sprinkler Outlets are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanized finish is available upon request.





SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI			Dimensions			Weight (Kg/Lbs)	Approval
		Sch. 40	Sch. 10	EN 10255	L mm / in	W mm / in	H mm / in		
25 x 15	33.4x 21.3	35	-	-	74	44.7	37.3	0.25	-
1 x ½	1.31 x 0.84	500	-	-	2.91	1.76	1.47	0.55	-
32 x 15	42.2 x 21.3	35	-	-	82	55.5	39.7	0.31	-
1¼ x ½	1.66x 0.84	500	-	-	3.23	2.18	1.56	0.68	-
32 x 25	42.2 x 33.4	35	-	-	82	55.5	48.7	0.36	-
1¼ x 1	1.66 x 1.31	500	-	-	3.23	2.18	1.92	0.79	-
40 x 15	48.3 x 21.3	35	-	-	91	58	44	0.41	UL
1½ x ½	1.9 x 0.84	500	-	-	3.58	2.28	1.73	0.93	UL
40 x 25	48.3 x 33.4	35	-	-	91	58	51	0.47	UL
1½ x 1	1.9 x 1.31	500	-	-	3.58	2.28	2	1.04	UL
50 x 15	60.3 x 21.3	35	20	20	95	58	50.5	0.40	UL
2 x ½	2.37 x 0.84	500	300	300	3.74	2.28	1.98	0.88	UL
50 x 20	60.3 x 26.7	35	20	20	95	58	57.5	0.45	UL
2 x ¾	2.37 x 1.05	500	300	300	3.74	2.28	2.26	0.99	UL
50 x 25	60.3 x 33.4	35	20	20	95	58	63.5	0.49	UL
2 x 1	2.37 x 1.31	500	300	300	3.74	2.28	2.50	1.08	UL
65 x 15	73 x 21.3	35	20	-	110	59	63.5	0.60	UL
2½ x ½	2.87 x 0.84	500	300	-	4.33	2.32	2.50	1.32	UL
65 x 20	73 x 26.7	35	20	-	110	59	64.5	0.62	UL
2½ x ¾	2.87 x 1.05	500	300	-	4.33	2.32	2.53	1.36	UL
65 x 25	73 x 33.4	35	20	-	110	59	72.5	0.68	UL
2½ x 1	2.87 x 1.31	500	300	-	4.33	2.32	2.85	1.49	UL
80 x 15	88.9 X 21.3	35	-	-	123	60	69	0.76	UL
3 x ½	3.50 X 0.84	500	-	-	4.84	2.36	2.72	1.67	UL
80 x 25	88.9 x 33.4	35	-	-	123	60	79	0.80	UL
3 x 1	3.5 x 1.31	500	-	-	4.84	2.36	3.11	1.76	UL
100 x 15	114.3 x 21.3	35	-	-	160	99	90	1.35	UL
4 x ½	4.50 x 0.84	500	-	-	6.3	3.9	3.54	2.97	UL
100 X 25	114.3 X 33.4	35	-	-	160	98	98	1.40	UL
4 X 1	4.50 X 1.31	500	-	-	6.3	3.86	3.86	3.08	UL
150 x 15	168.3 x 21.3	35	-	-	225	99	120	2.2	UL
6 x ½	6.62 x 0.84	500	-	-	8.86	3.9	4.72	4.85	UL
150X25	168.3 X 33.4	35	-	-	225	100	120	2.2	UL
6X1	6.62 X 1.31	500	-	-	8.86	3.94	4.72	4.85	UL

SPRINKLER OUTLET

Style 309

HOUSING

Fluid Sprinkler Outlet Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar materials or greater strength to that of wrought or cast steel materials.

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.03%	0.03% - 0.06%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.10%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

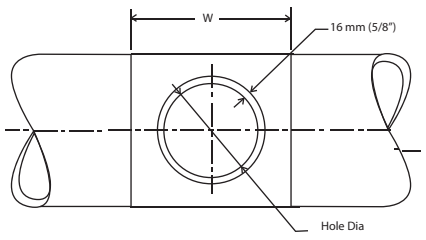
Fluid U Bolts are made of carbon steel confirming to ASTM A449 Type 1 and heavy duty Nuts.
The bolts and Nuts are galvanised.

Chemical & Physical Properties of Bolts

Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	827 MPa 120,000 PSI	634 Mpa 92,000 PSI

HOLE CUTTING DETAILS

Sprinkler Outlet Branch Size mm / in	Hole Dimensions (mm / in)		W Dimension mm / in
	Pipe Size (1" & 1¼)	Pipe Size (1½" to 6")	
15, 20, 25	24	30	88.9
½, ¾, 1	0.94	1.18	3½



FLUID®
Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

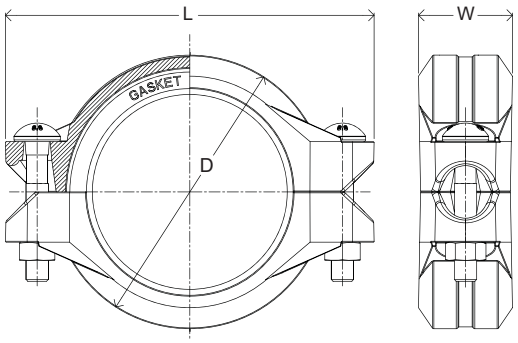
www.fluid-equipment.com

Style 313

FLEXIBLE COUPLING

UL LISTED EX15827

- Fluid Style 313 Flexible Grooved Coupling features moderate pressure ratings with lighter weights.
- Flexible couplings are designed to accommodate more angular movement and axial displacement for better flexibility of installations.
- Flexible coupling provides better protection in seismic events and helps to reduce noise and vibration.
- Flexible coupling housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -40°C to 105°C / -40°F to 221°F.
- Fluid Style 313 is suitable for use in dry pipe system for temperature to -40°F as per UL Listing.
- Fluid Couplings are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure[1] Bar / PSI			Load for Bending Moment[2] kN / Lbs	Axial Displace-ment mm / in	Minimum Angular Movement Per Coupling	Dimensions			Weight kg / Lbs	Approval
		Sch. 40	Sch. 10	EN 10255				L mm / in	W mm / in	D mm / in		
40	48.3	35	-	-	7.20	4.5	1°	109	46	73.5	0.73	UL
1½	1.90	500	-	-	1620	0.177	1°	4.29	1.81	2.89	1.60	UL
50	60.3	35	20	20	10.23	6.5	1°	125	46	87	0.89	UL
2	2.37	500	300	300	2300	0.256	1°	4.92	1.81	3.43	1.96	UL
65	73.0	35	20	-	15.74	3.0	1°	142	46	100	1.10	UL
2'1/2	2.87	500	300	-	3540	0.118	1°	5.59	1.81	3.42	2.42	UL
80	88.9	35	20	20	21.57	4.0	1°	162	46	118	1.36	UL
3	3.5	500	300	300	4850	0.157	1°	6.37	1.81	4.46	2.99	UL
100	114.3	35	20	20	32.65	9.0	1°	198	50	147	2.05	UL
4	4.5	500	300	300	7340	0.354	1°	7.79	1.96	5.78	4.51	UL
150	168.3	20	20	20	63.07	4.0	1°	249	50	198	3.55	UL
6	6.62	300	300	300	14180	0.157	1°	9.80	1.96	7.81	7.82	UL
200	219.1	20	20	20	100.61	11.0	1°	320	59	253	6.45	UL
8	8.62	300	300	300	22620	0.433	1°	12.59	2.32	9.96	14.20	UL
250	273	20	20	20	149.49	4.0	0.5°	401	63	317	11.50	UL
10	10.75	300	300	300	33610	0.157	0.5°	15.78	2.48	12.48	25.35	UL
300	323.5	20	20	20	204.34	3.0	0.5°	455	64	375	13.15	UL
12	12.75	300	300	300	45940	0.120	0.5°	17.91	2.52	14.76	28.99	UL

[1] For Sch.40 Roll Grooved Pipes
[2] At 2 feet between Supports

PRESSURE TEMPERATURE RATING

Pipe Type	Grooved Type	Maximum Working Pressure	EPDM Gasket Service Temperature
EN10255 M/H	Roll	20 Bar 300 PSI	-34°C to 105°C -30°F to 221°F
Sch.40	Roll	35 Bar 500 PSI	-34°C to 105°C -30°F to 221°F

FLEXIBLE COUPLING

Style 313

HOUSING

Fluid Coupling Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.03%	0.03% - 0.06%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are oval neck track head made of carbon steel confirming to ASTM A183 Gr.2 / ISO 8.8 and Nuts are heavy duty.
The bolts and Nuts are galvanized.

Chemical & Physical Properties of Bolts

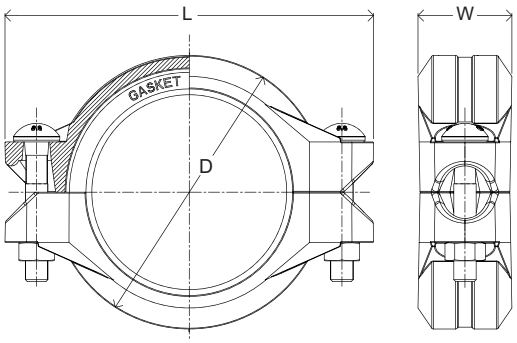
Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

Style 313A

UL LISTED EX15827

STAINLESS STEEL FLEXIBLE COUPLING

- Fluid Style 313A Flexible Grooved Coupling features moderate pressure ratings with lighter weights.
- Flexible couplings are designed to accommodate more angular movement and axial displacement for better flexibility of installations.
- Flexible coupling provides better protection in seismic events and helps to reduce noise and vibration.
- Coupling Housings are made of Stainless Steel confirming to ASTM A351 CF8M with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Suitable to be used in corrosive environments.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure[1] Bar / PSI	Load for Bending Moment[2] kN / Lbs	Axial Displacement mm / in	Minimum Angular Movement Per Coupling	Dimensions			Weight kg / Lbs	Approval
						L mm / in	W mm / in	D mm / in		
50	60.3	35	11	3.6	1°	125	46	84	0.835	UL
2	2.37	500	2473	0.14	1°	4.92	1.81	3.31	1.84	UL
65	73	35	16	4	1°	141	46	95	0.925	UL
2½	2.87	500	3597	0.16	1°	5.55	1.81	3.74	2.04	UL
80	88.9	35	22.00	28	1°	161	46	112.5	1.26	UL
3	3.5	500	4946	0.11	1°	6.34	1.81	4.43	2.78	UL

[1] For Sch.40 Roll Grooved Pipes
[2] At 2 feet between Supports

HOUSING

Fluid Coupling Housings are made of StainlessSteel confirming to ASTM A 351 CF8M
Stainless Steel is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphar S	Nickel Ni	Chromium Cr	Molybedenum Mo
Min - Max	0.08%	1.50%	1.50%	0.04%	0.04%	9.0% - 12.0%	18.0% - 21.0%	2.0% - 3.0%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
485 MPa	205 MPa
70,000 PSI	30,000 PSI

STAINLESS STEEL FLEXIBLE COUPLING

Style 313A

PRESSURE TEMPERATURE RATING

Pipe Type	Grooved Type	Maximum Working Pressure	EPDM Gasket Service Temperature
EN10255 M/H	Roll	20 Bar 300 PSI	-34°C to 105°C -30°F to 221°F
Sch.40	Roll	35 Bar 500 PSI	-34°C to 105°C -30°F to 221°F

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are square neck track head made of Stainless Steel confirming to ASTM A193 Gr. B8M and Nuts are ASTM A 194 Gr. 8M.

Chemical & Physical Properties of Bolts

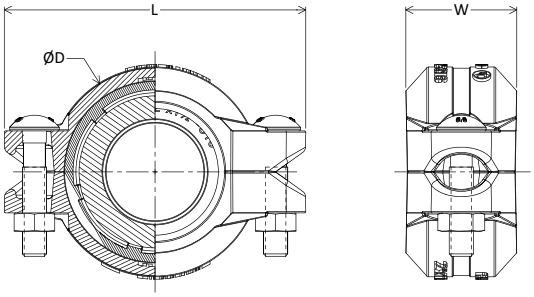
Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.08% Max.	0.045% Max.	0.030% Max.	16.0% - 18.0%	760 MPa 110,000 PSI	655 Mpa 95,000 PSI

Style 316

REDUCING COUPLING

UL LISTED EX15827

- Fluid Style 316 Grooved Reducing Coupling features moderate pressure ratings with lighter weights.
- Reducing coupling allows for direct reduction on a piping run and eliminates the need for a concentric reducer and couplings.
- The rubber gasket helps prevent small pipe from telescoping into larger pipe during vertical assembly.
- Reducing Coupling helps to accommodate more angular movement and axial displacement for better flexibility of installations.
- Reducing Coupling provides protection from seismic events and helps to reduce noise and vibration.
- Reducing Coupling Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- EPDM rubber Gaskets are suitable for installations with service temperature of -34°C to 105°C / -30°F to 221°F.
- Fluid Reducing Coupling are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Load for Bending Moment kN / Lbs	Axial Displace-ment mm / in	Minimum Angular Movement Per Coupling	Dimensions			Weight kg / Lbs	Approval
						L mm / in	W mm / in	D mm / in		
50 x 40	60.3 x 48.3	35	10.23	6.5	1°	125.0	46	87.0	0.94	UL
2 x 1½	2.375 x 1.91	500	2300	0.256	1°	4.92	1.81	3.43	2.07	UL
65 x 50	73 x 60.3	35	15.74	3.0	1°	141.0	46	100.0	1.14	UL
2½ x 2	2.875 x 2.37	500	3540	0.118	1°	5.55	1.81	3.94	2.51	UL
80 x 50	88.9 x 60.3	35	21.57	4.0	1°	161.0	46	117.5	1.78	UL
3 x 2	3.5 x 2.37	500	4850	0.157	1°	6.34	1.81	4.63	3.92	UL
80 x 65	88.9 x 73	35	21.57	4.0	1°	161.0	46	117.5	1.67	UL
3 x 2½	3.5 x 2.875	500	4850	0.157	1°	6.34	1.81	4.63	3.68	UL
100 x 80	114.3 x 88.9	35	32.65	9.0	1°	198.0	50	147.0	2.45	UL
4 x 3	4.5 x 3.5	500	7340	0.354	1°	7.80	1.96	5.79	5.40	UL
150 x 100	168.3 x 114.3	20	63.07	4.0	1°	276	52	205	4.9	UL
6 x 4	6.62 x 4.5	300	14180	0.157	1°	10.87	2.05	8.07	10.8	UL

HOUSING

Fluid Reducing Coupling Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

REDUCING COUPLING

Style 316

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are oval neck track head made of carbon steel confirming to ISO 8.8 and Nuts are heavy duty.
The bolts and Nuts are galvanized.

Chemical & Physical Properties of Bolts

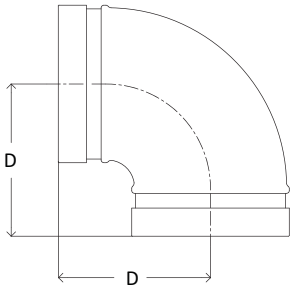
Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

Style 350

GROOVED ELBOW - 90°

UL LISTED EX15828

- Fluid Style 350 Grooved Elbow features short center to end dimensions and it helps easier installation in less space.
- Grooved Elbow are primarily designed for fire protection applications, it can also be used for general services.
- Elbow Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Elbows are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
25	33.4	35	0.52	57	0.24	-
1	1.31	500	1.7	2.24	0.53	-
32	42.2	35	0.7	63.5	0.36	-
1¼	1.66	500	2.3	2.25	0.79	-
40	48.3	35	0.76	63.5	0.55	UL/FM
1½	1.90	500	2.5	2.5	1.21	UL/FM
50	60.3	35	0.94	69.8	0.65	UL/FM
2	2.37	500	3.1	2.75	1.43	UL/FM
65	73.0	35	1.09	76.2	0.86	UL/FM
2½	2.87	500	3.6	3.00	1.90	UL/FM
80	88.9	35	1.34	85.9	1.43	UL/FM
3	3.50	500	4.4	3.38	3.15	UL/FM
100	114.3	35	1.8	105.6	2.55	UL/FM
4	4.50	500	5.9	4.16	5.62	UL/FM
150	168.3	20	2.71	139.7	6.10	UL/FM
6	6.62	300	8.9	5.50	13.44	UL/FM
200	219.1	20	3.65	173	10.15	UL/FM
8	8.62	300	12.0	6.81	22.37	UL/FM
250	273.0	20	3.35	228.6	22.7	UL/FM
10	10.74	300	11.0	9.00	50.05	UL/FM
300	323.5	20	4.27	254	30.20	UL/FM
12	12.73	300	14.0	10.00	66.55	UL/FM

HOUSING

Fluid Grooved Elbows are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

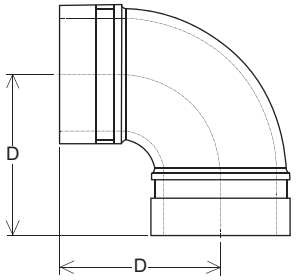
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 350A

STAINLESS STEEL ELBOW - 90°

UL LISTED EX15828

- Fluid Style 350A Grooved Elbow features short center to end dimensions and it helps easier installation in less space.
- Grooved Elbow are primarily designed for fire protection applications, it can also be used for general services.
- Elbow Housings are made of Stainless Steel confirming to ASTM A351 CF8M with rated working pressure up to 35 Bar / 500 PSI.
- Suitable to be used in corrosive environments.
- Ideal for seawater or foam concentrates applications.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
50	60.3	35	0.94	69.8	0.73	UL
2	2.37	500	3.08	2.75	1.62	UL
65	73.0	35	1.09	76.2	0.99	UL
2½	2.87	500	3.58	3.00	2.18	UL
80	88.9	35	1.34	85.9	1.39	UL
3	3.5	500	4.4	3.38	3.07	UL

HOUSING

Fluid Grooved Elbows are made of Stainless Steel confirming to ASTM A351 CF8M.
Stainless Steel is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

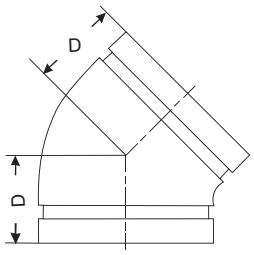
Minimum Tensile Strength	Minimum Yield Strength
485 MPa	205 MPa
70,000 PSI	30,000 PSI

Style 351

GROOVED ELBOW - 45°

UL LISTED EX15828

- Fluid Style 351 Grooved Elbow features short center to end dimensions and it helps easier installation in less space.
- Grooved Elbow are primarily designed for fire protection applications, it can also be used for general services.
- Elbow Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Elbows are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
25	33.4	35	0.3	44	0.21	-
1	1.31	500	0.9	1.73	0.46	-
32	42.2	35	0.4	44	0.29	-
1¼	1.66	500	1.2	1.73	0.64	-
40	48.3	35	0.4	44	0.35	-
1½	1.90	500	1.3	1.73	0.77	-
50	60.3	35	0.5	42.9	0.55	UL/FM
2	2.37	500	1.7	1.69	1.20	UL/FM
65	73	35	0.6	45.7	0.77	UL/FM
2½	2.87	500	2.0	1.80	1.70	UL/FM
80	88.9	35	0.8	50.9	1.23	UL/FM
3	3.50	500	2.5	2.00	2.70	UL/FM
100	114.3	35	0.9	60.8	1.87	UL/FM
4	4.5	500	3.0	2.39	4.10	UL/FM
150	168.3	20	1.4	75.1	4.61	UL/FM
6	6.62	300	4.5	2.96	10.10	UL/FM
200	219.1	20	2.0	94.8	7.68	UL/FM
8	8.62	300	6.5	3.73	16.90	UL/FM
250	273	20	2.5	121.0	14.10	UL/FM
10	10.74	300	8.3	4.76	31.08	UL/FM
300	323.5	20	3.0	133.0	18.56	FM
12	12.74	300	9.8	5.24	40.92	FM

HOUSING

Fluid Grooved Elbows are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

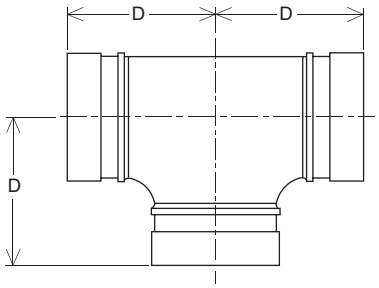
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 358

GROOVED EQUAL TEE

UL LISTED EX15828

- Fluid Style 358 Grooved Equal Tee features short center to end dimensions and it helps easier installation in less space.
- Grooved Tees are primarily designed for fire protection applications, it can also be used for general services.
- Grooved Tees Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Grooved Tee are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
25	33.4	35	1.34	57	0.36	-
1	1.31	500	4.4	2.24	0.79	-
32	42.2	35	1.77	63.5	0.54	-
1¼	1.66	500	5.8	2.5	1.19	-
40	48.3	35	1.98	63.5	0.80	UL/FM
1½	1.9	500	6.5	2.50	1.76	UL/FM
50	60.3	35	2.6	69.8	0.91	UL/FM
2	2.37	500	8.5	2.75	2.00	UL/FM
65	73	35	3.1	76.2	1.28	UL/FM
2½	2.87	500	10.0	3.00	2.82	UL/FM
80	88.9	35	3.7	85.9	2.00	UL/FM
3	3.50	500	12.0	3.38	4.40	UL/FM
100	114.3	35	4.6	101.6	3.50	UL/FM
4	4.5	500	15.0	4.02	7.71	UL/FM
150	168.3	20	6.7	139.7	8.30	UL/FM
6	6.62	300	22.0	5.5	18.29	UL/FM
200	219.1	20	10.1	173	13.85	UL/FM
8	8.62	300	33.0	6.81	30.53	UL/FM
250	273	20	9.25	228	31.50	UL/FM
10	10.74	300	30.4	9.00	69.44	UL/FM
300	323.5	20	11.78	254	40.35	UL/FM
12	12.74	300	38.7	10.00	88.95	UL/FM

HOUSING

Fluid Grooved Tees are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

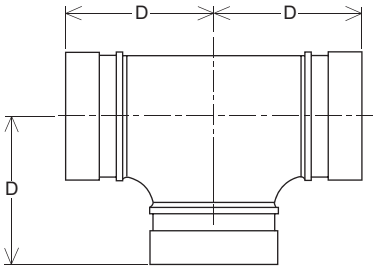
www.fluid-equipment.com

Style 358A

STAINLESS STEEL EQUAL TEE

UL LISTED EX15828

- Fluid Style 358A Grooved Equal Tee features short center to end dimensions and it helps easier installation in less space.
- Grooved Tees are primarily designed for fire protection applications, it can also be used for general services.
- Grooved Tees Housings are made of Stainless Steel confirming to ASTM A351 CF8M with rated working pressure up to 35 Bar / 500 PSI.
- Suitable to be used in corrosive environments.
- Ideal for seawater or foam concentrates applications.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
50	60.3	35	2	69.8	1.04	UL
2	2.37	500	6.56	2.75	2.31	UL
65	73.0	35	2.3	76.2	1.40	UL
2½	2.87	500	7.55	3.00	3.09	UL
80	88.9	35	2.85	85.9	1.94	UL
3	3.50	500	9.4	3.38	4.30	UL

HOUSING

Fluid Grooved Tees are made of Stainless Steel confirming to ASTM A351 CF8M.
Stainless Steel is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

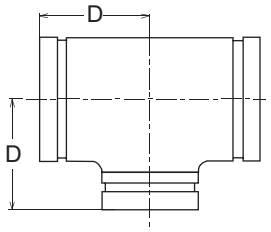
Minimum Tensile Strength	Minimum Yield Strength
485 MPa	205 MPa
70,000 PSI	30,000 PSI

Style 359

GROOVED REDUCING TEE

UL LISTED EX15828

- Fluid Style 359 Grooved Reducing Tee features short center to end dimensions and it helps easier installation in less space.
- Grooved Tees are primarily designed for fire protection applications, it can also be used for general services.
- Grooved Tees Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Grooved Tee are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Equivelent Length of Pipe meters / feet	Dimensions D mm / in	Weight kg / Lbs	Approval
65 x 50	73 x 60.3	35	2.6	95.3	1.48	UL/FM
2½ x 2	2.87 x 2.37	500	8.5	3.75	3.26	UL/FM
80 x 50	88.9 x 60.3	35	2.6	69.8	2.35	UL/FM
3 x 2	3.5 x 2.37	500	8.5	2.75	5.18	UL/FM
80 x 65	88.9 x 76.1	35	3.1	76.2	2.48	UL/FM
3 x 2½	3.5 x 2.87	500	10.0	3.00	5.46	UL/FM
100 x 65	114.3 x 73	35	3.1	127	4.23	UL/FM
4 x 2½	4.5 x 2.87	500	10.0	5.00	9.33	UL/FM
100 x 80	114.3 x 88.9	35	3.7	85.9	4.45	UL/FM
4 x 3	4.5 x 3.50	500	12.0	3.38	9.81	UL/FM
150 x 65	168.3 x 73	20	3.1	165.1	9.14	UL/FM
6 x 2½	6.62 x 2.87	300	10.0	6.50	20.15	UL/FM
150 x 80	168.3 x 88.9	20	3.7	165.1	9.29	UL/FM
6 x 3	6.62 x 3.5	300	12.0	6.50	20.48	UL/FM
150 x 100	168.3 x 114.3	20	4.6	101.6	9.45	UL/FM
6 x 4	6.62 x 4.5	300	15.0	4.02	20.83	UL/FM
200 x 80	219.1 x 88.9	20	3.7	196.8	14.30	UL/FM
8 x 3	8.62 x 3.5	300	12	7.75	31.53	UL/FM
200 x 100	219.1 x 114.3	20	4.6	196.8	15.20	UL/FM
8 x 4	8.62 x 4.5	300	15.0	7.75	33.51	UL/FM
200 x 150	219.1 x 168.3	20	6.7	140	15.30	UL/FM
8 x 6	8.62 x 6.62	300	22.0	5.51	33.73	UL/FM
250 x 200	273 x 219.1	20	10.1	229	30.64	UL/FM
10 x 8	10.74 x 8.62	300	33	9	67.55	UL/FM
300 x 200	323.9 x 219.1	20	10.1	254	39.41	-
12 x 8	12.75 x 8.62	300	33	10	86.88	-
600 x 150	609.6 x 168.3	20	36	508	145	-
24 x 6	24 x 6.62	300	120	20	319.67	-

HOUSING

Fluid Grooved Tees are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

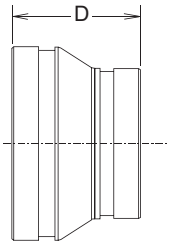
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 361

GROOVED CONCENTRIC REDUCER

UL LISTED EX15828

- Fluid Grooved Concentric Reducer style 361 designed for short center to end dimensions it helps in easier installation in less space.
- Fluid Grooved Concentric Reducers are primarily designed for fire protection applications, can also be used for general services.
- Grooved Concentric Reducer housings are made of Ductile Iron conforming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Concentric Reducer are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

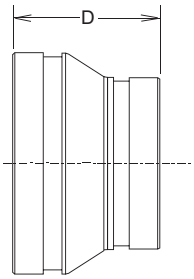
Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions D mm / in	Weight kg / Lbs	Approval
40 X 32	48.3X 42.2	35	64	0.28	-
1½ X 1¼	1.90 X 1.66	500	2.52	0.62	-
50 X 32	60.3 X 42.2	35	64	0.37	-
2 X 1¼	2.37 X 1.66	500	2.52	0.82	-
50 X 40	60.3X 48.3	35	64	0.42	UL/FM
2 X 1½	2.37 X 1.90	500	2.52	0.93	UL/FM
65 X 50	73 X 60.3	35	64	0.51	UL/FM
2½ X 2	2.87 X 2.37	500	2.52	1.12	UL/FM
80 X 50	88.9 X 60.3	35	64	0.59	UL/FM
3 X 2	3.50 X 2.37	500	2.52	1.30	UL/FM
76 X 65	88.9 X 73	35	64	0.63	UL/FM
3 X 2½	3.50 X 2.87	500	2.52	1.38	UL/FM
100 X 40	114.3 X 48.3	35	76.2	1.00	UL/FM
4 X 1½	4.5 X 1.9	500	3.00	2.20	UL/FM
100 X 50	114.3 X 60.3	35	76	1.04	UL/FM
4 X 2	4.50 X 2.37	500	3.00	2.29	UL/FM
100 X 65	114.3 X 73	35	76	1.03	UL/FM
4 X 2½	4.50 X 2.87	500	3.00	2.27	UL/FM
100 X 80	114.3 X 88.9	35	76	0.96	UL/FM
4 X 3	4.50 X 3.50	500	3.00	2.12	UL/FM
150 X 50	168.3 X 60.3	35	101.5	2.02	UL/FM
6 X 2	6.62 X 2.37	500	4.0	4.45	UL/FM
150 X 65	168.3 X 73	35	101.5	2.05	UL/FM
6 X 2½	6.62 X 2.87	500	4.0	4.52	UL/FM
150 X 80	168.3 X 88.9	20	101.5	2.09	UL/FM
6 X 3	6.62 X 3.5	300	4.0	4.61	UL/FM
150 X 100	168.3 X 114.3	20	102	2.33	UL/FM
6 X 4	6.62 X 4.50	300	4.02	5.15	UL/FM
200 X 100	219.1 X 114.3	20	127	5.11	UL/FM
8 X 4	8.62 X 4.50	300	5.00	11.26	UL/FM
200 X 150	219.1 X 168.3	20	127	5.88	UL/FM
8 X 6	8.60 X 6.62	300	5.00	12.97	UL/FM
250 X 100	273 X 114.3	20	152.4	7.35	UL/FM
10 X 4	10.75 X 4.5	300	6.0	16.20	UL/FM
250 X 200	273 X 219.1	20	152.40	7.60	UL/FM
10 X 8	10.75 X 8.60	300	6.00	16.75	UL/FM
300 X 200	323.9 X 219.1	20	178	11.07	UL
12 X 8	12.75 X 8.62	300	7.0	24.41	UL

Style 361A

UL LISTED EX15828

STAINLESS STEEL CONCENTRIC REDUCER

- Fluid Grooved Concentric Reducer style 361 designed for short center to end dimensions it helps in easier installation in less space.
- Fluid Grooved Concentric Reducers are primarily designed for fire protection applications, can also be used for general services.
- Grooved Concentric Reducer housings are made of Stainless Steel confirming to ASTM A351 CF8M with rated working pressure up to 35 Bar / 500 PSI.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar/PSI	Dimensions D mm / in	Weight kg / Lbs	Approval
65 X 50	73 X 60.3	35	64	0.48	UL
2½ X 2	2.87 X 2.37	500	2.25	1.06	UL
80 X 65	88.9 X 73	35	64	0.70	UL
3 X 2½	3.50 X 2.87	500	2.25	1.54	UL

HOUSING

Fluid Grooved Concentric Reducers are made of Stainless Steel confirming to ASTM A351 CF8M.
Stainless Steel is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
485 MPa	205 MPa
70,000 PSI	30,000 PSI

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

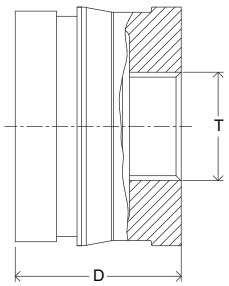
www.fluid-equipment.com

Style 363

UL LISTED EX15828

CONCENTRIC REDUCER - GROOVED/THREADED

- Fluid Grooved/Threaded Concentric Reducer style 361 designed for short center to end dimensions it helps in easier installation in less space.
- Fluid Grooved/Threaded Concentric Reducers are primarily designed for fire protection applications, can also be used for general services.
- Maximum working pressure 300 PSI.
- Grooved/Threaded Concentric Reducer housings are made of Ductile Iron conforming to ASTM A 536.
- Standard Finish: Red painted RAL 3000.
  Optional Finish: Galvanised or any other RAL color available on request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Thread Size T	Dimensions D mm / in	Weight kg / Lbs	Approval
65x25	73 x 33.4	1" BSPT/NPT	64	0.925	UL
2½x1	2.875x 1.31	1" BSPT/NPT	2.52	2.04	UL
65x32	73 x 42.2	1¼" BSPT/NPT	64	0.852	UL
2½x1¼	2.875x 1.66	1¼" BSPT/NPT	2.52	1.88	UL
65X40	73 x 48.3	1½" BSPT/NPT	64	0.794	UL
2½x1½	2.875x 1.9	1½" BSPT/NPT	2.52	1.75	UL
65x50	73 x 60.3	2" BSPT/NPT	64	0.66	UL
2½x2	2.875x 2.37	2" BSPT/NPT	2.52	1.46	UL
80X25	88.9 x 33.4	1" BSPT/NPT	64	1.297	UL
3x1	3.5x 1.31	1" BSPT/NPT	2.52	2.86	UL
80X32	88.9 x 42.2	1¼" BSPT/NPT	64	1.228	UL
3x1¼	3.5x 1.66	1¼" BSPT/NPT	2.52	2.71	UL
80X40	88.9 x 48.3	1½" BSPT/NPT	64	1.167	UL
3x1½	3.5x 1.90	1½" BSPT/NPT	2.52	2.57	UL
80X50	88.9 x 60.3	2" BSPT/NPT	64	1.036	UL
3x2	3.5x 2.37	2" BSPT/NPT	2.52	2.28	UL
80X65	88.9 x 73	2½" BSPT/NPT	64	0.820	UL
3x2½	3.5x 2.875	2½" BSPT/NPT	2.52	1.81	UL

HOUSING

Fluid Concentric Reducers (G/T) are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Physical Properties

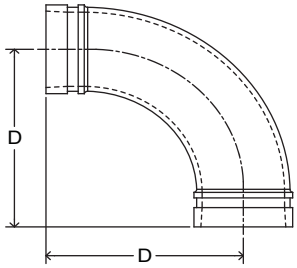
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 364

GROOVED ELBOW-90°-LONG RADIUS

UL LISTED EX15828

- Fluid Style 364 Grooved Elbow features low friction loss compared to short radius.
- Fluid Grooved Elbow are primarily designed for fire protection applications, it can also be used for general services.
- Fluid Elbow Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid Elbows are supplied with Red painted RAL 3000 as standard. Other RAL colours or galvanised finish is available upon request.
- Fluid Long Radius Elbow has low friction loss due to 1.5D Radius.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions D mm / in	Weight (Kg/Lbs)	Approval
50	60.3	35	136	1.15	UL
2	2.37	500	5.35	2.54	UL
65	73	35	146	1.54	UL
2½	2.87	500	5.75	3.39	UL
80	88.9	35	181	2.79	UL
3	3.5	500	7.13	6.15	UL
100	114.3	35	191	4.54	UL
4	4.5	500	7.52	10.00	UL
150	168.3	20	273	11.42	UL
6	6.62	300	10.75	25.17	UL
200	219.1	20	381	23.50	UL
8	8.62	300	15.0	51.80	UL

HOUSING

Fluid Grooved Elbows are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12. Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Chemical Properties

Percent (%)	Carbon C	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

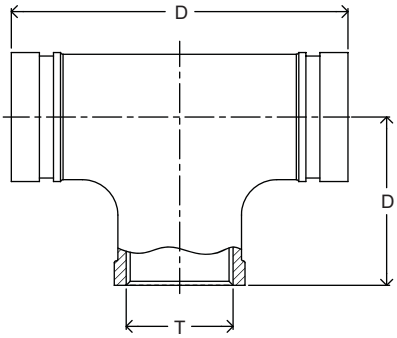
FITTINGS

Style 369

REDUCING TEE-GROOVED/THREADED

UL LISTED EX15828

- Fluid Style 369 Grooved/Threaded Reducing Tee features short center to end dimensions and it helps easier installation in less space.
- Grooved/Threaded Tees are primarily designed for fire protection applications, it can also be used for general services.
- Grooved/Threaded Tees Housings are made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 20 Bar / 300 PSI.
- Fluid Grooved/Threaded Tee are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Thread Size T	Dimensions D mm / in	Weight kg / Lbs	Approval
65x50	73x60.3	2" BSPT/NPT	95.3	1.93	UL
2½x2	2.87x2.37	2" BSPT/NPT	3.8	4.25	UL

HOUSING

Fluid Grooved Tees are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials.

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Chemical Properties

Percent (%)	Carbon C	Manganese Mn	Phosphorous P	Sulphar S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

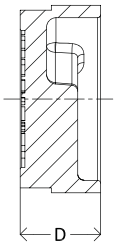
Style 371

GROOVED END CAP

UL LISTED EX15828

- Fluid Style 371 Grooved End Cap is designed to terminate grooved piping end for temporary or permanent basis.
- Grooved End Caps are supplied with blind connection as standard. 15 mm / 0.5 inch tapping with plug is available as optional to be used for pressure gauge or drain point connection. Groove Dimensions confirm to AWWA C606.
- End Cap Body is made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Fluid End Caps are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.

1½"-12" End Cap



12" Above End Cap

SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Groove Diameter mm / in	Dimensions D mm / in	Weight kg / Lbs	Approval
25	33.4	35	30.2	23.9	0.08	-
1	1.31	500	1.19	0.94	0.18	-
32	42.2	35	39	23.9	0.12	-
1¼	1.66	500	1.53	0.94	0.26	-
40	48.3	35	45	26	0.19	UL/FM
1½	1.90	500	1.77	1.02	0.42	UL/FM
50	60.3	35	57.1	26	0.26	UL/FM
2	2.37	500	2.25	1.02	0.57	UL/FM
65	73	35	69.1	26	0.40	UL/FM
2½	2.87	500	2.72	1.02	0.88	UL/FM
80	88.9	35	84.9	26	0.54	UL/FM
3	3.50	500	3.34	1.02	1.20	UL/FM
100	114.3	35	110.1	26	0.95	UL/FM
4	4.50	500	4.33	1.02	2.09	UL/FM
150	168.3	35	164.0	27	1.90	UL/FM
6	6.62	500	6.45	1.60	4.03	UL/FM
200	219.1	20	214.4	32	3.99	UL/FM
8	8.62	300	8.44	1.25	8.79	UL/FM
250	273.0	20	268.3	32	8.25	UL/FM
10	10.75	300	10.56	1.25	18.18	UL/FM
300	323.9	20	318.0	32	10.80	UL/FM
12	12.73	300	12.52	1.25	23.87	UL/FM
350	355.6	20	350.0	78	20.58	UL/FM
14	14.00	300	13.78	3.07	43.47	UL/FM
400	406.4	20	400.84	80	28.00	UL/FM
16	16.00	300	15.78	3.15	61.72	UL/FM

HOUSING

Fluid End Caps are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Physical Properties

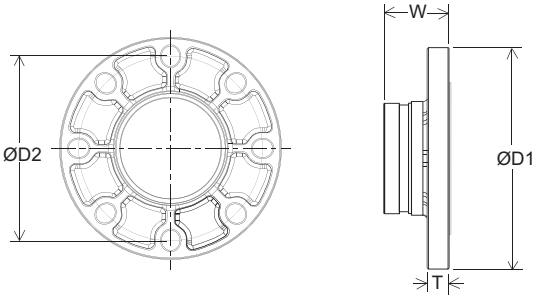
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 373

GROOVED FLANGE

UL LISTED EX15828

- Fluid Style 373 Grooved Flange is designed to provide a rigid transition from a flanged component to a grooved piping system.
- Grooved Flanges are supplied as per ANSI Class 125 drilling pattern as standard. Groove Dimensions confirm to AWWA C606.
- Flange Body is made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Grooved Flanges are supplied with Flat Face as Standard. Raised Face Flange available as optional.
- Fluid Flanges are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions				Weight kg / Lbs	Approval
			D1 mm / in	D2 mm / in	W mm / in	T mm / in		
65	73	24	178.92	139.70	65.00	22.35	2.99	UL/FM
2½	2.37	350	7.04	5.50	2.56	0.88	6.59	UL/FM
80	88.9	24	191.67	152.40	65.00	22.35	3.30	UL/FM
3	3.50	350	7.55	6.00	2.56	0.88	7.27	UL/FM
100	114.3	35	229.77	190.50	67	22.35	4.30	UL/FM
4	4.50	500	9.04	7.50	2.63	0.87	9.47	UL/FM
150	168.3	14	282	241.30	70	22.90	6.10	UL/FM
6	6.62	200	11.10	9.50	2.75	0.90	13.44	UL/FM
200	219.1	17	344.86	298.40	108	27	11.00	UL/FM
8	8.62	250	13.57	11.74	4.25	1.06	24.25	UL/FM
250	273	17	415	361.95	132	28.50	18.75	UL/FM
10	10.75	250	16.33	14.25	5.19	1.12	41.33	UL/FM
300	323.8	20	482.60	431.80	145	30.23	29.00	UL/FM
12	12.75	300	19	16.96	5.70	1.19	63.93	UL/FM
350	355.6	20	533	476.2	145	35	36.40	UL/FM
14	14	300	20.98	18.74	5.70	1.37	80.24	UL/FM
400	406.4	20	597	532.4	145	37	46.50	UL/FM
16	16	300	23.50	20.96	5.70	1.45	102.51	UL/FM
600	609.6	20	828	759.7	165	38	102	-
24	24	300	32.59	29.91	6.49	1.89	224.87	-

HOUSING

Fluid Grooved flanges are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

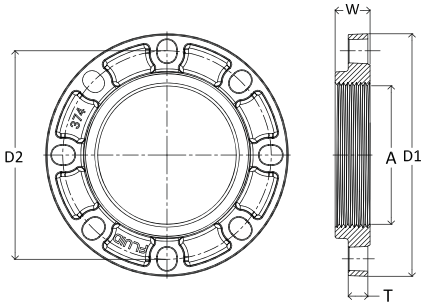
Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 374

THREADED FLANGE

- Fluid Style 374 Threaded Flange is designed to provide a rigid flanged component without welding.
- Threaded Flanges are supplied as per ANSI Class 125 drilling pattern as standard. Other drilling patterns PN16 or ANSI Class 250 are available as optional.
- Flange Body is made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Threaded Flanges are supplied with Flat Face as Standard. Raised Face Flange available as optional.
- Fluid Flanges are supplied with Red painted RAL 3000 as standard. Other RAL colours available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions					Weight kg / Lbs	Approval
			D1 mm / in	D2 mm / in	W mm / in	T mm / in	A		
100	114.3	35	229.5	190.5	34.5	22.3	4" NPT/BSP	4.29	-
4	4.50	500	9.04	7.50	1.36	0.88	4" NPT/BSP	9.45	-
150	168.3	35	282.0	241.3	40.5	22.9	6" NPT/BSP	6.78	-
6	6.62	500	11.10	9.50	1.59	0.90	6" NPT/BSP	14.95	-

HOUSING

Fluid Threaded Flange Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.03%	0.03% - 0.06%	0% - 0.1%

Physical Properties

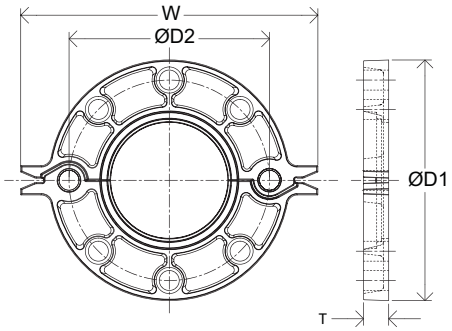
Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Style 375

UL LISTED EX15827

SPLIT FLANGE

- Fluid Style 375 Split Flange is designed to provide a rigid transition from a flanged component to a grooved piping system.
- Split Flanges are supplied as per ANSI Class 125 drilling pattern as standard. Other drilling patterns PN16 or ANSI Class 250 are available as optional. Groove Dimensions confirm to AWWA C606.
- Flange Body is made of Ductile Iron confirming to ASTM A 536 with rated working pressure up to 35 Bar / 500 PSI.
- Split Flanges are supplied with Flat Face as Standard. Raised Face Flange available as optional.
- Fluid Flanges are supplied with Red painted RAL 3000 as standard. Other RAL colours or Galvanised finish is available upon request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Maximum Working Pressure Bar / PSI	Dimensions				Weight kg / Lbs	Approval
			D1 mm / in	D2 mm / in	W mm / in	T mm / in		
50	60.3	35	155.4	120.6	215.2	23	1.84	UL
2	2.4	500	6.12	4.75	8.47	0.9	4.05	UL
65	73	35	183.1	139.7	236.6	23	2.35	UL
2½	2.87	500	7.21	5.5	9.31	0.9	5.18	UL
80	88.9	35	193.1	152.4	253.2	23	2.50	UL
3	3.5	500	7.6	6.0	9.97	0.9	5.51	UL
100	114.3	35	231.7	190.5	285.6	24	3.55	UL
4	4.5	500	9.12	7.5	11.24	0.94	7.82	UL
150	168.3	20	283.7	241.3	346.6	24	4.62	UL
6	6.6	300	11.17	9.5	13.64	0.94	10.18	UL
200	219.1	20	338.0	298.4	412.0	28	7.07	UL
8	8.6	300	13.3	11.75	16.2	1.1	15.58	UL

SPLIT FLANGE

Style 375

HOUSING

Fluid Split Flange Housings are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Silicon Si	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	2.5% - 3.2%	0.1% - 0.4%	0% - 0.07%	0% - 0.03%	0.03% - 0.06%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

GASKETS

Fluid Gaskets are made with EPDM rubber compound confirming to ASTM D2000 with properties equal or greater to required as per AWWA C606.
EPDM gaskets are suitable for water, waste water, sea water and deionized water.
EPDM gaskets are not suitable for petroleum based oils, fuels and hydrocarbon solvents.

Physical Properties

Material	Colour Code	Shore Hardness	Maximum Specific Gravity	Maximum Ash Content	Minimum Tensile Strength	Minimum Elongation %
EPDM	Green Mark	65 ± 5	1.1%	5%	10.34 MPa 1500 PSI	300%

BOLTS AND NUTS

Fluid Bolts are hex bolts made of carbon steel confirming to ISO 8.8 and Nuts are heavy duty manufactured.
The bolts and Nuts are galvanised.

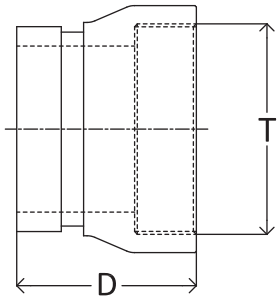
Chemical & Physical Properties of Bolts

Carbon C	Phosphorous P	Sulphur S	Chromium Cr	Tensile Strength	Yield Strength
0.3% Min.	0.05% Max	0.06% Max	0% - 0.1%	760 MPa 110,000 PSI	550 Mpa 80,000 PSI

Style 378

STRAIGHT CONNECTOR - GROOVED/THREADED

- Fluid Grooved/Threaded Straight Connector style 378 designed for short center to end dimensions it helps in easier installation in less space.
- Fluid Grooved/Threaded Straight Connector are primarily designed for fire protection applications, can also be used for general services.
- Maximum working pressure 300 PSI.
- Fluid Grooved/Threaded Straight Connector housings are made of Ductile Iron conforming to ASTM A 536.
- Standard Finish: Red painted RAL 3000.
  Optional Finish: Galvanised or any other RAL color available on request.



SPECIFICATION

Nominal Size mm / in	Pipe O.D. mm / in	Thread Size T	Dimensions D mm / in	Weight kg / Lbs	Approval
65	73	2½" NPT/BSPT	64	0.751	-
2½	2.875	2½" NPT/BSPT	2.52	1.66	-

HOUSING

Fluid Straight Connector are made of Ductile Iron confirming to ASTM A 536 Gr. 65-45-12.
Ductile iron is an ideal material for grooved mechanical components, as it provides similar or greater strength to that of wrought or cast steel materials

Chemical Properties

Percent (%)	Carbon C	Manganese Mn	Phosphorous P	Sulphur S	Magnesium Mg	Chromium Cr
Min - Max	3% - 3.9%	0.1% - 0.4%	0% - 0.07%	0% - 0.02%	0.03% - 0.05%	0% - 0.1%

Physical Properties

Minimum Tensile Strength	Minimum Yield Strength
448 MPa	310 MPa
65,000 PSI	45,000 PSI

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com

Model 390

- Fluid lubricant Model 390 is water dispersible.
- Suitable for all type of pipe lines.
- Will not deteriorate natural or synthetic gaskets or duct iron fittings.
- Excellent working temperature range form 12°C to 65°C.
- Contains no petroleum.
- Non toxic and biodegradable.
- Will not support bacteria.
- Meet NSF Standard #61, drinking water system components.

The fluid lubricant model 390 must always be used for proper coupling / fitting installation. The lubricant prevents the gasket from being pinched during coupling / fitting assembly, which will result in leakages.

APPLICATION

Fluid Model 390 should be applied in an even and thin amount over the parts to be lubricated. Avoid applying excessive amounts. The best application is achieved when applying by hand. Clean all dirt, burrs and foreign matter from the joint surfaces. Make certain the gasket is properly located. Apply an even coating of lubricant to all fitting surfaces and gasket exterior and for interior. Assemble the joint according to the Fluid assembly instructions.

Fluid model 390 utilises environmentally friendly raw materials common in the soap and lubricant industries. It will not irritate the hands and is not toxic. It can be cleaned using warm water and soap. Does not contain petroleum oils or phosphates.

TECHNICAL DATA

Form: Soft Past
Colour: Amber/Tan
Odour: Bland
pH: Approximately 9.5
Free Fatty Acid: 1-3%
Total Alkalinity: Approximately 100 mg KOH equivalent per gram

LUBRICANT

The below table will give an indication on the number of gaskets which can be lubricated with 1 kg lubricant.

Size	No. of Gaskets
50mm / 2"	440
65mm / 2½"	360
80mm / 3"	300
100mm / 4"	220
150mm / 6"	135
200 mm / 8"	110
250 mm / 10"	85
300 mm / 12"	65
350 mm / 14"	55
400 mm / 16"	50
450 mm / 18"	38
500 mm / 20"	33
600 mm / 24"	20

DISCLAIMER

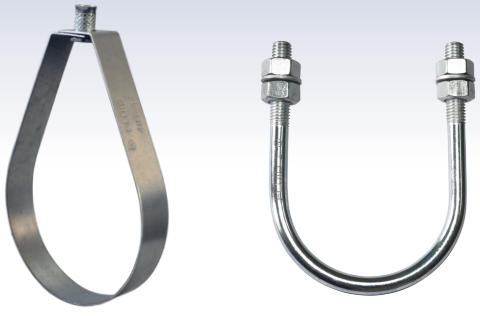
DO NOT ALTER THE CONSISTENCY OF THIS PRODUCT. Use as is directly from the container. Keep away from your mouth and eyes. If eye contact occurs, flush with water for 5 minutes. If discomfort persists get medical attention. Will stain untreated porous surfaces such as concrete if not cleaned from the surface immediately.

CAUTION!!

Avoid contact with eyes, wash thoroughly after use. See material data sheet for additional safety and disposal information at www.fluid-equipment.co.uk

FLUID EQUIPMENT INTERNATIONAL LTD.

FIRE PROTECTION



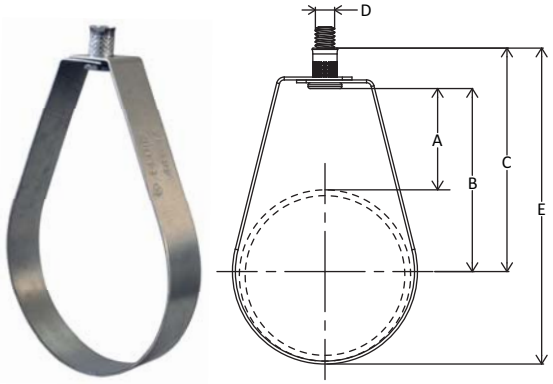
PIPE HANGERS

FLUID®

Model 481

UL LISTED EX27151

ADJUSTABLE SWIVEL RING HANGERS



- Used in fire protection system as support for pipelines.
- Swivel Ring Hangers are available in sizes ½" through 8".
- Swivel Ring Hangers are made of Carbon Steel and are Electro Galvanized.
- Underwriters Laboratories Listed and Complies to NFPA requirements.
- Knurled insert nut allows vertical adjustment after installation.

DIMENSIONS

Nominal Size mm / in	Pipe Outside Diameter mm / in	Rod Sizes D	Max. Allowable Load KN / Lbf	Dimensions				Weight Kg/Lbs
				A mm / in	B mm / in	C mm / in	E mm / in	
15	21.3	M10	3.34	38.4	47.0	68.0	82.0	0.053
½	0.83	M10	750	1.5	1.9	2.7	3.2	0.117
20	26.7	M10	3.34	29.7	41.2	62.2	78.6	0.053
¾	1.05	M10	750	1.2	1.6	2.4	3.1	0.117
25	33.4	M10	3.34	25.3	40.5	61.5	81.0	0.054
1	1.31	M10	750	1.0	1.6	2.4	3.2	0.119
32	42.2	M10	3.34	27.6	47.3	68.3	92.0	0.062
1¼	1.66	M10	750	1.1	1.9	2.7	3.6	0.137
40	48.3	M10	3.34	29.5	51.6	72.6	100.0	0.068
1½	1.9	M10	750	1.2	2.0	2.9	3.9	0.150
50	60.3	M10	3.34	34.0	62.6	83.6	116.5	0.077
2	2.37	M10	750	1.3	2.5	3.3	4.6	0.170
65	73	M10	3.78	42.8	77.3	98.3	138.0	0.090
2½	2.87	M10	850	1.7	3.0	3.9	5.4	0.198
80	88.9	M10	4.67	49.1	91.5	112.5	160.5	0.128
3	3.5	M10	1050	1.9	3.6	4.4	6.3	0.282
100	114.3	M10	6.67	49.2	104.4	125.4	186.0	0.174
4	4.5	M10	1500	1.9	4.1	4.9	7.3	0.384
150	168.3	M12	11.79	58.2	139.9	165.9	255.0	0.369
6	6.62	M12	2650	2.3	5.5	6.5	10.0	0.814
200	219.1	M12	18.02	67.9	174.5	200.5	315.5	0.463
8	8.62	M12	4050	2.7	6.9	7.9	12.4	1.021

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

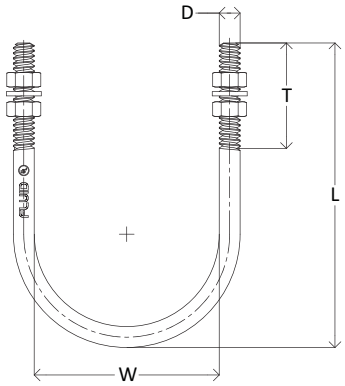
www.fluid-equipment.com

Model 483

U-BOLTS

UL LISTED EX27151

- Used in Fire Protection System as a support, anchor or guides for various types of pipes.
- Fluid U-Bolts are available in sizes ½" through 12", Non UL Listed is available upto 24".
- Fluid U-Bolts are made of Steel conforming to ASTM A 449 and are electrogalvanised.
- Fluid U-Bolts can also be supplied in stainless steel 304 or 316.
- Accessories, Hex nuts and Plate washers with the same finish of U-Bolts can be supplied upon request.



DIMENSIONS

Nominal Size mm / in	Pipe Outside Diameter mm / in	Load Kgf / Lbf	Dimensions				Weight kg / Lbs	
			D mm/in	T mm/in	W mm/in	L mm/in	Without Nuts	With 2 Nuts & 2 Washers
15	21.3	340	M8	36	24	58	0.045	0.055
½	0.83	750	M8	1.41	0.94	2.28	0.099	0.121
20	26.7	340	M8	36	29	63	0.050	0.060
¾	1.05	750	M8	1.41	1.41	2.48	0.110	0.132
25	33.4	340	M8	36	35	69	0.060	0.070
1	1.31	750	M8	1.41	1.37	2.71	0.130	0.154
32	42.2	340	M8	36	43	77	0.070	0.080
1¼	1.66	750	M8	1.41	1.69	3.03	0.150	0.176
45	48.3	340	M8	36	51	86	0.075	0.085
1½	1.9	750	M8	1.41	2.01	3.38	0.160	0.187
50	60.3	340	M8	36	62	96	0.090	0.100
2	2.37	750	M8	1.41	2.44	3.77	0.198	0.220
65	73	386	M10	40	75	114	0.170	0.196
2½	2.87	850	M10	1.57	2.95	4.48	0.374	0.432
80	88.9	476	M10	40	90	130	0.190	0.216
3	3.5	1050	M10	1.57	3.54	5.11	0.418	0.476
100	114.3	680	M10	40	116	154	0.230	0.256
4	4.5	1500	M10	1.57	4.56	6.06	0.507	0.564
150	168.3	1202	M10	40	171	210	0.320	0.346
6	6.62	2650	M10	1.57	6.73	8.26	0.705	0.762
200	219.1	1837	M12	48	222	266	0.600	0.640
8	8.62	4050	M12	1.88	8.74	10.47	1.322	1.410
250	273	2654	M20	66	276	338	1.800	1.938
10	10.75	5850	M20	2.59	10.86	13.3	3.968	4.272
300	323.9	3583	M22	75	327	400	2.800	2.968
12	12.75	7900	M22	2.95	12.87	15.74	6.172	6.543

CHEMICAL PROPERTIES

Percent (%)	Carbon (C)	Silicon (Si)	Manganese (Mn)	Phosphorous (P)	Sulphar (S)
Min - Max	0.3% - 0.52%	0.15% -0. 3%	0.60% Min	0% - 0.04%	0% - 0.05%

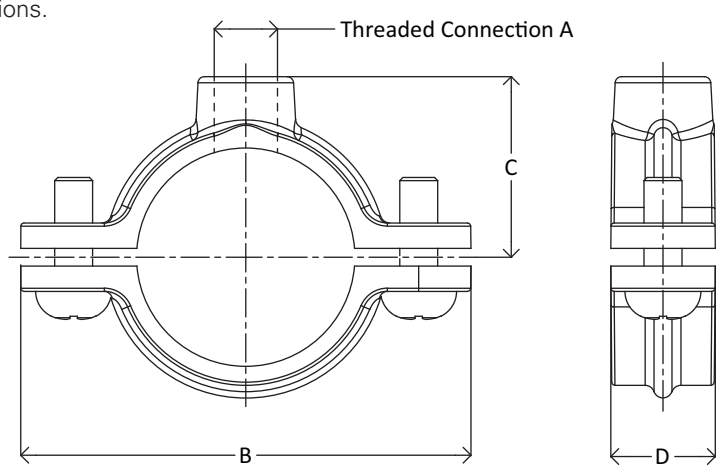
PHYSICAL PROPERTIES

Rod dia (mm / inch)	Minimum Tensile Strength	Minimum Yield Strength	Minimum Elongation (%)
6.35 - 25.4	825 MPa	635 MPa	14
1/4 - 1	120000 PSI	92000 PSI	14
28.57 - 38.1	725 MPa	560 MPa	14
1-1/8 - 1-1/2	105000 PSI	81000 PSI	14
41.27 - 76.2	620 MPa	400 MPa	14
1-5/8 - 3	90000 PSI	58000 PSI	14

Model 480

SPLIT RING HANGER

- Fluid Split Ring Hanger designed for horizontal mounting to the wall or vertical mounting to the ceiling.
- Fluid Split Ring Hanger are primarily designed for fire protection applications, it can also be used for general services.
- Fluid Split Ring Hanger are made up of Ductile Iron.
- Fluid Split Ring Hanger are painted Red, RAL 3000 (Standard). Any other RAL colour (optional).
- Fluid Split Ring Hanger are Ideal for confined locations.



SPECIFICATION

Nominal Size mm / in	Threaded Connection A	Dimensions mm / in			Max. Allowable Load KN / Lbf	Wt. Kg/Lbs
		B	C	D		
15	M10	60.7	22.2	16.5	3.34	0.079
½	M10	2.39	0.87	0.65	750	0.174
20	M10	67	25.5	16.5	3.34	0.082
¾	M10	2.64	1.00	0.65	750	0.181
25	M10	71	28.5	16.5	3.34	0.087
1	M10	2.80	1.12	0.65	750	0.192
32	M10	81.3	35	16.5	3.34	0.100
1¼	M10	3.20	1.38	0.65	750	0.220
40	M10	88	38	16.5	3.34	0.107
1½	M10	3.46	1.50	0.65	750	0.236
50	M10	111.2	43.1	22.0	3.34	0.182
2	M10	4.38	1.70	0.87	750	0.401
65	M10	120	53.5	22.0	3.78	0.192
2½	M10	4.72	2.11	0.87	750	0.423
80	M10	142	61.3	22.0	4.67	0.243
3	M10	5.59	2.41	0.87	750	0.536
100	M10	170	75.6	22.0	6.67	0.349
4	M10	6.69	2.98	0.87	750	0.769
150	M10	227	103	25.0	11.79	0.580
6	M10	8.94	4.06	0.98	750	1.279

Design and Materials are subject to change without notice.

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

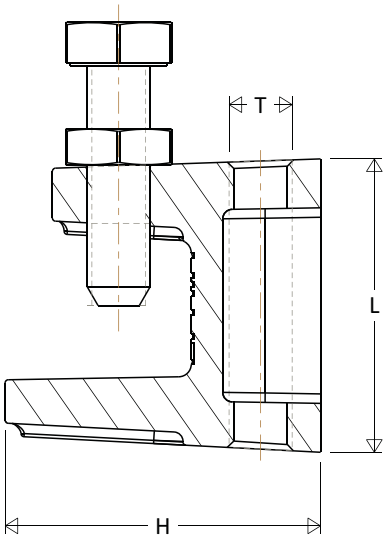
INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

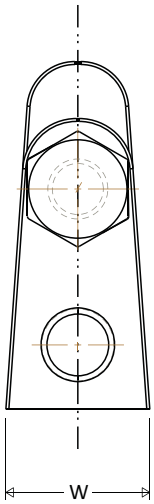
www.fluid-equipment.com

Model 484

BEAM CLAMP

- Fluid Beam clamps designed for Sprinkler systems, Heating ventilation and Air conditioning, Acoustic tubes and Sanitary installations.
- Beam clamps are primarily designed for attaching hanger rod to a beam or bar Joist.
- Beam clamps are made up of Ductile Iron conforming to ASTM A 536.
- Beam Clamps are electro galvanized finish.
- Beam Clamps can be used in inverted position as well.
- Maximum beam size is 19mm for M10 - 24mm for M12.





MATERIAL OF CONSTRUCTION

Part Name	Material & Finish	Standards
Body	Ductile Iron - Galvanized	ASTM A 536 Gr. 65-45-12
Hex Bolt - Cup End	Carbon Steel - Galvanized	ASTM A183 Gr. 2
Hex Nut	Carbon Steel - Galvanized	ASTM A 563 Gr. A

DIMENSIONS

Size	L mm / Inch	W mm / Inch	H mm / Inch	T	Bolt Size	Weight Kg / Lbs
M10	46.5	21	50	M10x1.5P	M10x42mm	0.17 Kg
	1.83	0.83	1.97	M10x1.5P	M10x42mm	0.38 Lbs
M12	53.5	24	58	M12x1.75P	M12x50mm	0.23 Kg
	1.83	0.94	2.28	M12x1.75P	M12x50mm	0.51 Lbs

Fluid Equipment International Limited
SINCE 1978

IRELAND
4 The Break,
Colla Road, Schull,
CO. Cork P81 E657, Ireland.

UAE
Plot No. 599-2285,
Jebel Ali Industrial Area-1,
Dubai, UAE.

INDIA
7/222, Nagamanaickenpalayam,
Pattanam Road, Coimbatore,
Tamil Nadu, India.

www.fluid-equipment.com