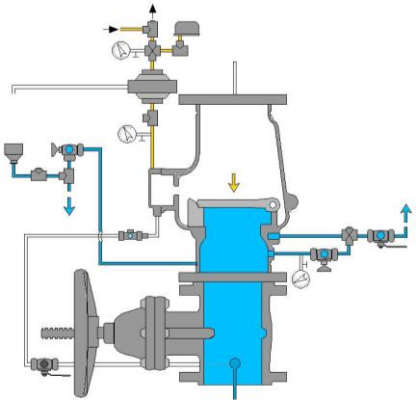
LATCHING CLAPPER DELUGE VALVE

MODEL AGCX
Pneumatic Actuation
(Ductile Iron, Stainless Steel)





c UL us LISTED 15133

FM APPROVED

PRODUCT DESCRIPTION

The Model AGCX from AG Fire Sprinkler Deluge Valve is a hydraulically operated, latching clapper-type valve used to control the water supply to a deluge or preaction system. Deluge systems use open sprinklers or nozzles as discharge outlets in the fire area, while preaction systems use closed sprinklers or nozzles. Both systems use separate detection devices to control the operation of the Deluge Valve.

The AG Model AGCX Deluge Valve can be reset externally, without cover removal. This is accomplished by pushing in and turning the external reset knob at the rear of the Deluge Valve.

TECHNICAL DATA

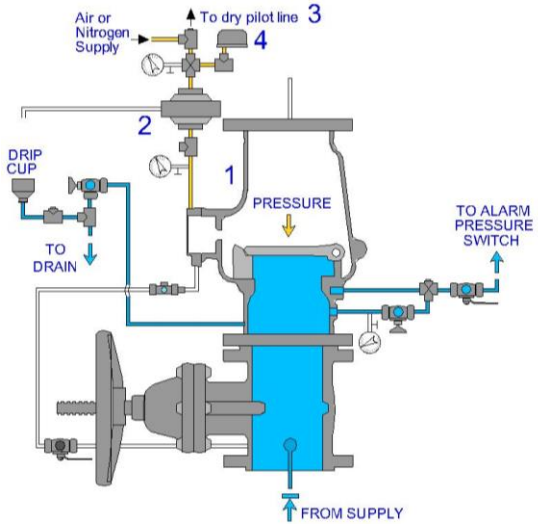
Model	AGCX
Material	Ductile Iron (D) Stainless Steel (SS)
Nominal size	D Grooved: 2" (50 mm), 2 ½" (65 mm) & 3" (80 mm) D & SS Flanged: 4" (100 mm), 6" (150 mm) & 8" (200 mm)
Rated working pressure	D: 250 psi (17,2 bar) for 2", 2½", 3", 8" valve sizes 300 psi (20,7 bar) for 4" & 6" valve sizes SS: 250 psi (17,2 bar)
Factory tested to a hydrostatic pressure	500 psi (34,5 bar) for 250 psi (17,2 bar) pressure service 600 psi (41,4 bar) for 300 psi (20,7 bar) pressure service
Installation position	Vertical mounting
End and Trim connection	ANSI/AWWA C606 grooved inlet and outlet (2", 2 ½" & 3") Threaded openings Per ANSI B 2.1 Flange connection: ANSI B 16.5 Class 150 (4", 6" & 8") ISO 7005-2 PN16 (only for Ductile Iron Model)
Cv factor	2" (50 mm): 101 2 ½" (65 mm): 236 3" (80 mm): 254 4" (100 mm): 469 6" (150 mm): 886 8" (200 mm): 1516
Finish	Red RAL 3000

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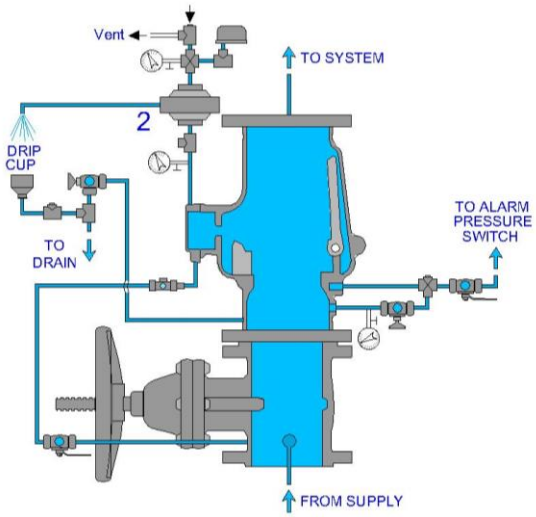
OPERATION: AGCX PNEUMATIC ACTUATION

The Model AGCX pneumatic from AG Fire Sprinkler is recommended for environments with freezing temperatures and/or corrosive water supply. It also can be used where height/distance limits of wet pilot lines are exceeded.

Closed sprinklers or detectors are installed throughout the protected area on a piping that contains pressurized air or nitrogen. A Dry Pilot Actuator **(2)** is installed on the outlet of the Model AGCX Deluge Valve **(1)** push-rod chamber. This device provides a separation between the hydraulically pressurized push-rod chamber and the pneumatically pressurized pilot line. The dry pilot line **(3)** is a pneumatic extension of the push-rod chamber pressurizing piping. Upon activation of a pilot line sprinkler or pilot line detector, pneumatic pressure is released from the piping allowing the dry pilot actuator to vent and release hydraulic pressure from the push-rod chamber. This allows the Model AGCX Deluge Valve **(1)** to open and deliver water to the open sprinklers, nozzles, or other discharge devices in the protected area. Alarm devices are activated upon the flow of water into the sprinkler system piping. Pneumatic pressure in the dry pilot line **(3)** can be provided from a tank-mounted compressor, plant air system, or nitrogen cylinders, and must be maintained by a pressure maintenance device. To prevent accidental system activation, pneumatic pressure is monitored by a pressure switch **(4)** that will initiate a signal in the event of low pressure due to sprinkler or damage, or failure of the compressed gas system.



VALVE CLOSED (SET POSITION)



VALVE OPENED (OPERATION CONDITION)

DIMENSIONS

Material	Valve Size	End Connection	Dimensions End to End	Weight	Equivalent Length
Ductile Iron	2" (50mm)	Groove/ Groove	12 ½" (318 mm)	34 lbs (15 kg)	4,4 ft (1,3 m) / 3,1 ft (1,0 m)
	2½" (65mm)	Groove/ Groove	12 ½" (318 mm)	34 lbs (15 kg)	6,0 ft (1,8 m) / 4,3 ft (1,3 m)
	3" (80mm)	Groove/ Groove	12 ½" (318 mm)	34 lbs (15 kg)	12,6 ft (3,8 m) / 9,0 ft (2,7 m)
	4" (100mm)	Groove/ Groove	14" (356 mm)	64 lbs (29 kg)	14 ft (4,3 m) / 10 ft (3,0 m)
		Flange/ Groove	16" (406 mm)	79 lbs (36 kg)	
		Flange/ Flange	16" (406 mm)	92 lbs (42 kg)	
	6" (150mm)	Groove/ Groove	16" (406 mm)	95 lbs (43 kg)	29,4 ft (9,0 m) / 20,9 ft (6,4 m)
		Flange/ Groove	19" (483 mm)	122 lbs (56 kg)	
		Flange/ Flange	19" (483 mm)	138 lbs (69 kg)	
	8" (200mm)	Groove/ Groove	19 3/8" (492 mm)	148 lbs (67 kg)	53,5 ft (16,3 m)
		Flange/ Flange	21 1/4" (540 mm)	197 lbs (90 kg)	38,1 ft (11,6 m)
Stainless Steel	4" (100mm)	Groove/ Groove	14" (356 mm)	68 lbs (30,8 kg)	14.9 ft (4,54 m)
		Flange/ Flange	16" (406 mm)	110 lbs (49,9 kg)	
	6" (150mm)	Groove/ Groove	16" (406 mm)	101 lbs (45,8 kg)	31,8 ft (9,69 m)
		Flange/ Flange	18" (457 mm)	170 lbs (77,1 kg)	
	8" (200mm)	Groove/ Groove	19 3/8" (492 mm)	159 lbs (72,1 kg)	53,5 ft (16,31 m)
		Flange/ Flange	21 1/4" (540 mm)	259lbs (117,5kg)	

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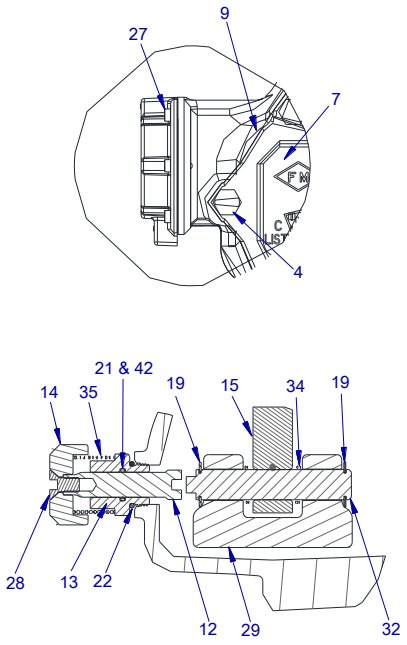
Groove dimensions:

Nominal Pipe Size	Outlet Diameter	Groove Diameter	Groove Width	Outlet Face to Groove
2” (50 mm)	2,375” (60 mm)	2,250” (57 mm)	11/32” (9 mm)	5/8” (16 mm)
2 ½” (65 mm)	2,875” (73 mm)	2,720” (69 mm)	11/32” (9 mm)	5/8” (16 mm)
3” (80 mm)	3,500” (89 mm)	3,344” (85 mm)	11/32” (9 mm)	5/8” (16 mm)
4” (100 mm)	4,5” (114 mm)	4,334” (110 mm)	3/8” (9,5 mm)	5/8” (16 mm)
6” (150 mm)	6,625” (168 mm)	6,455” (164 mm)	3/8” (9,5 mm)	5/8” (16 mm)
8” (200 mm)	8,625” (219 mm)	8,441” (214 mm)	7/16” (11 mm)	3/4” (19 mm)

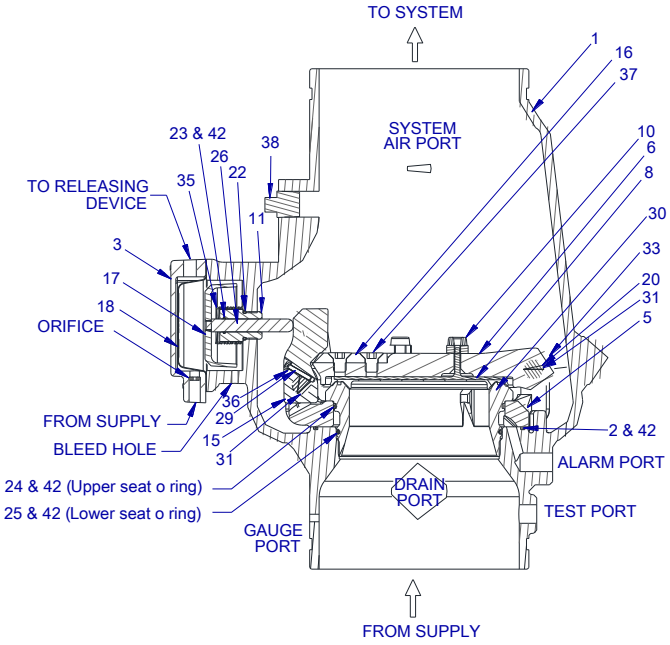
Flange Dimensions:

Flange Type	Nominal Pipe Size	Bolt Circle Diameter	Bolt Hole Diameter	Flange Outside Diameter	Flange Thickness	Nº Bolts
AMSE B16.5 Class 150	4” (100mm)	7 ½” (191mm)	¾” (19mm)	9” (229mm)	15/16” (24mm)	8
ISO 7005-2 PN16	4” (100mm)	73/32” (180mm)	¾” (19mm)	9” (229mm)	15/16” (24mm)	8
AMSE B16.5 Class 150	6” (150mm)	9½” (241mm)	7/8” (22mm)	11” (279mm)	15/16” (24mm)	8
ISO 7005-2 PN16	6” (150mm)	9 7/16” (240mm)	29/32” (23mm)	11” (279mm)	15/16” (24mm)	8
AMSE B16.5 Class 150	8” (200mm)	11 ¾” (298mm)	7/8” (22mm)	13½” (343mm)	1” (25.4mm)	8
ISO 7005-2 PN16	8” (200mm)	11 5/8” (295mm)	29/32” (23mm)	13½” (343mm)	1” (25.4mm)	12

SCREW-IN SEAT CONFIGURATION DELUGE VALVE AGCX PART LIST



EXTERNAL RESET ASSEMBLY



AGCX DELUGE VALVE

DUCTILE IRON										
Nº	Part No.						Part Description		QTY	Material
	2"	2½"	3"	4"	6"	8"				
1	91006011	91006012	91006013	91006005	91006007	91006028	Valve Body	Groove/Groove	1	Ductile Iron 65-45-12
	N/A	N/A	N/A	91006045	91006067	N/A	Valve Body	Flange/Groove		
	N/A	N/A	N/A	91006035	91006037	91006039	Valve Body	Flange/Flange		
2	N/A	N/A	N/A	N/A	N/A	91006414	O-ring (Mounting Ring)		1	Buna-N
3	71040416						Pushrod Cover Assembly		1	Ductile Iron65-45-12 & Brass C36000
4	91106123			N/A	N/A	N/A	Hex Bolt ½"-13 x 1¼"		6	Zinc Plated Steel
	N/A			95606107	N/A	N/A	Hex Bolt ½"-13 x 1½"		6	Zinc Plated Steel
	N/A			N/A	91106006	N/A	Hex Bolt 5/8"-11 x 1¾"		6	Zinc Plated Steel

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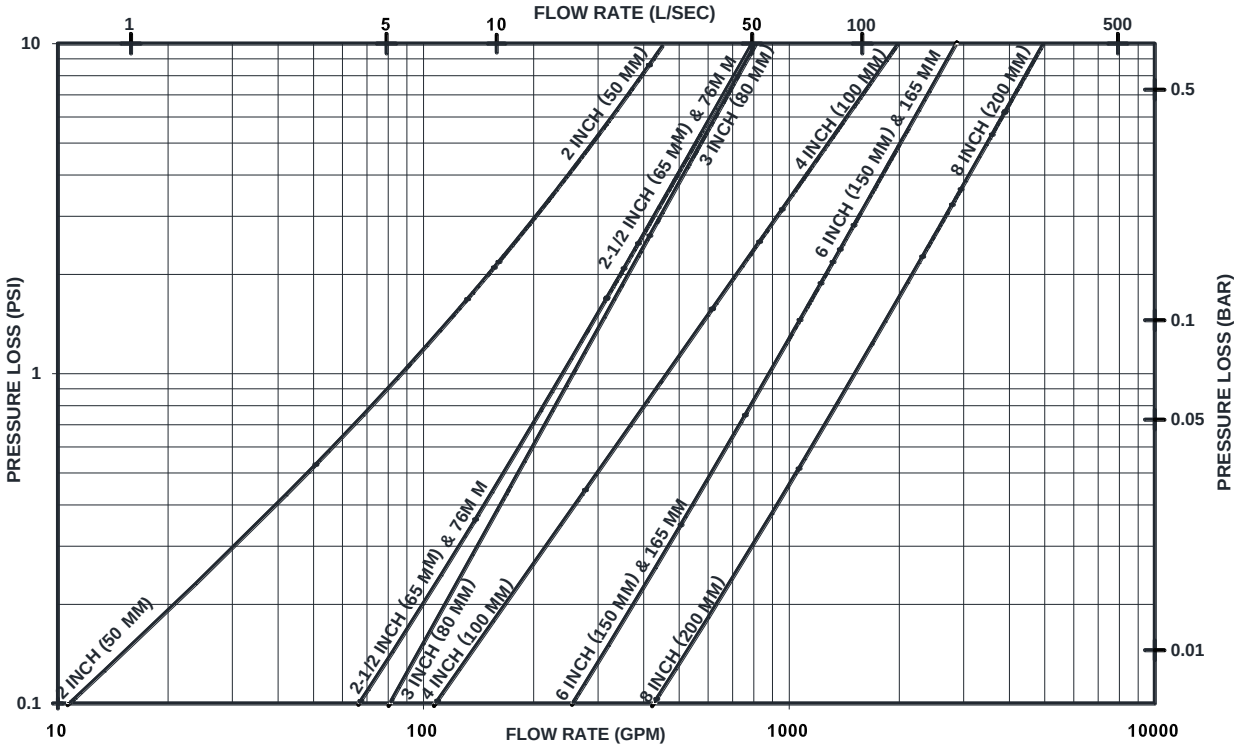
	N/A	N/A	N/A	95606110	Hex Bolt 5/8"-11 x 2"	8	Zinc Plated Steel
5	91306013	91306014	91306016	91306018	Mounting Ring	1	Stainless Steel CF8 or CF8M
6	91916013	91916014	91916016	91916008	Clapper	1	Stainless Steel CF8 or CF8M
7	92116063	92116064	92116065 92116066	92116068	Access Cover	1	Ductile Iron 65-45-12
8	93416003	93416014	93416016	93416008	Seal Assembly	1	Stainless Steel 304 & EPDM
9	OR06003	93706004	93706006	93706008	Access Cover Gasket	1	Buna-N or Neoprene
10	93722000	93722000	N/A	N/A	Bumpstop Assembly	1	Stainless Steel UNS S31600 & EPDM
	N/A	N/A	93722000	N/A		2	
	N/A	N/A	N/A	93722000		3	
11	93916006				Pushrod Guide	1	Acetal
12	93916066				Reset Shaft	1	Brass UNS C36000
13	94106066				Reset Housing	1	Brass UNS C36000
14	94356006				Reset Knob	1	Aluminum 6061
15	94506003	94506004	94506016	94706008	Lever	1	Stainless Steel UNS S17400
16	95006414	95006412	95006410	95006410	Striker	1	Aluminum Bronze C95400
17	95106006				Piston	1	Stainless Steel CF8M
18	95276006				Diaphragm	1	EPDM & Polyester
19	95306267	N/A	N/A	N/A	Retaining Ring, 3/8" Shaft, Lever Pin	2	Stainless Steel 15-7 or 17-7
	N/A	95306267	N/A	N/A	Retaining Ring, ½" Shaft, Lever Pin		
	N/A	N/A	95306269	N/A	Retaining Ring, 5/8" Shaft, Lever Pin		
	N/A	N/A	N/A	95316408	Retaining Ring, ¾" Shaft, Lever Pin		
20	95306267	N/A	N/A	N/A	Retaining Ring, 3/8" Shaft, Hinge Pin	2	Stainless Steel 15-7 or 17-7
	N/A	95306267	95306267	N/A	Retaining Ring, ½" Shaft, Hinge Pin		
	N/A	N/A	N/A	95316408	Retaining Ring, ¾" Shaft, Hinge Pin		
21	95406007				O-Ring, Reset Housing ID	1	Buna-N
22	95406024				O-Ring, Reset Housing & Pushrod Guide OD	2	Buna-N
23	95406407				O-Ring, Pushrod Guide ID	1	Buna-N
24	95406410	95406409	95436126	95406413	O-Ring, Upper Seat	1	Buna-N
25	95406411	95406420	95446226	95406412	O-Ring, Lower Seat	1	Buna-N
26	OR 06006				Pushrod	1	Stainless Steel UNS S30300
27	OR 06114				Socket Head Screw, ¼"-20 x 5/8"	6	Steel
28	OR 06127				Flat Head Socket Cap Screw 3/8"-16 x ¾"	1	Steel
29	95606133	N/A	N/A	N/A	Socket Head Screw #6-32 x ½"	1	Stainless Steel 18-8
	N/A	95606130	95606130	95606130	Socket Head Screw #10-32 x 1"		Stainless Steel UNS S31600
30	96016003	96016014	96016016	96016008	Seat	1	Stainless Steel CF8M
31	96206003	N/A	N/A	N/A	Hinge Pin	1	Stainless Steel UNS S30400
	N/A	96216086	96216068	96206008			Stainless Steel UNS S21800
32	96216003	N/A	N/A	N/A	Lever Pin	1	Stainless Steel UNS S17400
	N/A	96216044	96216047	96216008			Stainless Steel UNS S21800
33	96310003	96906904	96906904	96310008	Clapper Spacer	2	Teflon or Acetal
34	96406003	N/A	N/A	N/A	Lever Spring	1	Stainless Steel UNS S30400
	N/A	96406004	96406005	96406008		1	Stainless Steel UNS S31600
35	96406906				Piston/ Reset Spring	2	Stainless Steel UNS S31600
36	96906112	N/A	N/A	N/A	Spring Lock Washer, #6	1	Stainless Steel 18-8
	N/A	96906111	96906111	96906111	Spring Lock Washer, #10	1	Stainless Steel UNS S31600
37	95606140	N/A	N/A	N/A	Flat Head Socket Cap Screw ¼"-20 x ½"	2	Stainless Steel 18-8
	N/A	95606139	N/A	N/A	Flat Head Socket Cap Screw ¼"-20 x ½"		Stainless Steel UNS S31600
	N/A	N/A	N/A	95606135	Flat Head Socket Cap Screw ½"-13 x ¾"		Stainless Steel UNS S31600
38	98604402				Plug, ½" NPT	1	Steel
39	94616921				Knob Caution Label (Not Shown)	1	Polystyrene
40	91556922				Ball Chain, 1/8" (Not Shown)	6	Nickel Plated Brass
41	91556923				Clamping Link, Ball Chain (Not Shown)	1	Nickel Plated Brass
42	699993406				O-Ring Grease, Duponttm	A/R	Krytox® GPL-205

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STAINLESS STEEL						
Nº	Part Number			Part Description	QTY	Material
	4"	6"	8"			
1	91026074	910026076	91026029	Valve Body Groove/Groove	1	Stainless Steel CF8M
	91026054	91026056	91026059	Valve Body Flange/Flange Class 150		
	91026055	91026057	91026060	Valve Body Flange/Flange Class 130		
2	N/A	N/A	95406414	O-ring (Mounting Ring)	1	Buna-N
3	92126358			Pushrod Cover	1	Stainless Steel CF8M
4	95606141	N/A	N/A	Hex Bolt ½"-13 x 1½"	6	Stainless Steel 316
	N/A	95606137	N/A	Hex Bolt 3/4"-11 x 2"	6	Stainless Steel 316
	N/A	N/A	95606137		8	Stainless Steel 316
5	91326014	91326016	91326018	Mounting Ring	1	Stainless Steel CF8M
6	91926014	91926016	91926018	Clapper	1	Stainless Steel CF8M
7	92126054	92126056	92126058	Access Cover	1	Stainless Steel CF8M
8	93416024	93416026	93416028	Seal Assembly	1	Stainless Steel 316 & EPDM
9	93706004	93706006	93706008	Access Cover Gasket	1	Buna-N or Neoprene
10	93722000	N/A	N/A	Bumpstop Assembly	1	Stainless Steel 316 & EPDM
	N/A	93722000	N/A		2	
	N/A	N/A	93722000		3	
11	93916006			Pushrod Guide	1	Acetal
12	93916008			Reset Shaft	1	Stainless Steel 316
13	94106068			Reset Housing	1	Stainless Steel CF8M
14	94356010			Reset Knob	1	Stainless Steel 316
15	94506024	94506026	94506028	Lever	1	Titanium 6-4
16	95006413	95006411		Striker	1	Aluminum Bronze 954
17	95106006			Piston	1	Stainless Steel CF8M
18	95276006			Diaphragm	1	EPDM & Polyester
19	95306267	N/A	N/A	Retaining Ring, ½" Shaft	4	Stainless Steel 15-7 or 17-7
	N/A	95306267	N/A	Retaining Ring, ½" Shaft	2	
	N/A	95306269	N/A	Retaining Ring, 5/8" Shaft	2	
	N/A	N/A	95316408	Retaining Ring, ¾" Shaft	4	
21	95406007			O-Ring, Reset Housing ID	1	Buna-N
22	95406024			O-Ring, Reset Housing & Pushrod Guide OD	2	Buna-N
23	95406407			O-Ring, Pushrod Guide ID	1	Buna-N
24	95406409	95436126	95406413	O-Ring, Upper Seat	1	Buna-N
25	95406420	95446226	95406412	O-Ring, Lower Seat	1	Buna-N
26	95506008			Pushrod	1	Aluminium Bronze 954
27	95606136			Socket Head Screw, ¼"-20 x 5/8"	6	Stainless Steel 316
28	95606138			Flat Head Socket Cap Screw 3/8"-16 x ¾"	1	Stainless Steel 316
29	95606130			Socket Head Screw #10-28 x 1"	1	Stainless Steel 316
30	96026014	96026016	96026008	Seat	1	Stainless Steel CF8M
31	96216044		96206008	Hinge Pin	1	Stainless Steel UNS S21800
32	96216044	96216047	96216008	Lever Pin	1	Stainless Steel UNS S21800
33	96906904		96310008	Clapper Spacer	2	Teflon or Acetal
34	96406004	96406005	96406008	Lever Spring	1	Stainless Steel 316
35	96406906			Piston/ Reset Spring	2	Stainless Steel 316
36	96906111			Spring Lock Washer, #10	1	Stainless Steel 316
37	95606139	N/A	N/A	Flat Head Socket Cap Screw ¼"-20 x ½"	2	Stainless Steel 316
	N/A	95606135		Flat Head Socket Cap Screw ½"-13 x ¾"	2	Stainless Steel 316
39	94616921			Knob Caution Label (Not Shown)	1	Polystyrene
40	91556922			Ball Chain, 1/8" (Not Shown)	6	Nickel Plated Brass
41	91556923			Clamping Link, Ball Chain (Not Shown)	1	Nickel Plated Brass
42	85000050			O-Ring Grease, Duponttm Krytox® GPL-201	A/R	Krytox

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FRICTION LOSS



Friction loss (Expressed in equivalent length of Schedule 40 pipe), based on Hazen & Williams formula:

Valve Size	End Connection		Cv
	C = 120	C = 100	
2" (50mm)	4.4 ft (1,3 m)	3.1 ft (1,0 m)	101
2 ½" (65mm)	6.0 ft (1,8 m)	4.3 ft (1,3 m)	236
3" (80mm)	12.6 ft (3,8 m)	9.0 ft (2,7 m)	254
4" (100mm)	14 ft (4,3 m)	10 ft (3,0 m)	469
6" (150mm)	29.4 ft (9,0 m)	20.9 ft (6,4 m)	886
8" (200mm)	53.5 ft (16,3 m)	38.1 ft (11,6 m)	1516

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ORDERING INFORMATION

ASSEMBLED COMPONENTS			
SIZE	DUCTILE IRON VALVE + GALVANIZED STEEL TRIM	STAINLESS STEEL VALVE + STAINLESS STEEL TRIM	
		STAINLESS STEEL TRIM SS-304	STAINLESS STEEL TRIM SS-316
2" DN50	PDAGCX050N0		
2 ½" DN65	PDAGCX065N0		
3" DN80	PDAGCX080N0		
4" DN100	PDAGCX100N0	PDAGCX100N2	PDAGCX100N3
6" DN150	PDAGCX150N0	PDAGCX150N2	PDAGCX150N3
8" DN200	PDAGCX200N0	PDAGCX200N2	PDAGCX200N3

SEPARATED COMPONENTS				
SIZE	VALVE		TRIM TYPE	
	DUCTILE IRON	STAINLESS STEEL	GALVANIZED STEEL	
			SPARED	PREMOUNTED
2" DN50	VD050RR0		TRDX050080N0	TRDX050080N0P
2 ½" DN65	VD065RR0		TRDX050080N0	TRDX050080N0P
3" DN80	VD080RR0		TRDX050080N0	TRDX050080N0P
4" DN100	VD100BR0	VD100BR0I	TRDX100200N0	TRDX100200N0P
6" DN150	VD150BR0	VD150BR0I	TRDX100200N0	TRDX100200N0P
8" DN200	VD200BR0	VD200BR0I	TRDX100200N0	TRDX100200N0P

SEPARATED COMPONENTS				
SIZE	TRIM TYPE			
	STAINLESS STEEL AISI304		STAINLESS STEEL AISI316	
	SPARED	PREMOUNTED	SPARED	PREMOUNTED
2" DN50	TRDX050080N2	TRDX050080N2P	TRDX050080N3	TRDX050080N3P
2 ½" DN65	TRDX050080N2	TRDX050080N2P	TRDX050080N3	TRDX050080N3P
3" DN80	TRDX050080N2	TRDX050080N2P	TRDX050080N3	TRDX050080N3P
4" DN100	TRDX100200N2	TRDX100200N2P	TRDX100200N3	TRDX100200N3P
6" DN150	TRDX100200N2	TRDX100200N2P	TRDX100200N3	TRDX100200N3P
8" DN200	TRDX100200N2	TRDX100200N2P	TRDX100200N3	TRDX100200N3P

Specify:

Valve Model	
Quantity	
Material	
Size of valve	
End and Trim connection	
Trim	

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AG FIRE SPRINKLER

AG Fire Sprinkler offers a wide selection of components. Then a list of products is presented by AG Fire Sprinkler, we can offer all these components, made with precision to protect people, anywhere, anytime.

- Sprinklers
  - Standard Coverage
  - Extended Coverage
  - Storage
  - Dry
  - Accessories
- System Valves
  - Wet
  - Dry
  - Preaction Equipment
  - Accessories
- Spray System Open Nozzles
  - High Velocity Nozzles
  - Medium Velocity Nozzles
  - Window Nozzles
  - Hydroshield Nozzles
  - Mushroom Type Nozzles
- Foam equipment
  - Tanks
  - Proportioners
  - Foam Discharge Equipment
  - Foam Concentrates
- Deluge equipment for Water Spray and Foam
  - Clapper Deluge Valves
  - Diaphragm Deluge Valves
- Monitors
  - Manual Monitors
  - Remote Monitors
  - Monitor Nozzles
  - Towers and Trolleys
- Valves
  - Butterfly Valves
  - Gate Valves
  - Check Valves
  - Pressure Control Valves
  - Test and Drain
  - Hose, Hydrant and Fire Connection Valves
  - Fire Department Connections

The equipment presented in this bulletin is to be installed in accordance with the latest published Standard of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.
This documentation is not contractual. AG Fire Sprinkler reserves the right to any kind of change without notice.

C/Alfoz de Bricia nº4 | P.I. Villalonquéjar | 09001 Burgos (Spain) | Tlfno: +34 947 28 11 08