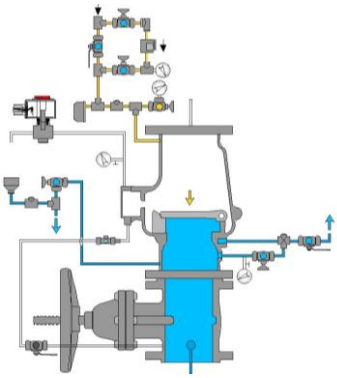
DOUBLE INTERLOCK PREACTION EQUIPMENT

Model AGCX Type D (Ductile Iron)
Electric Actuation





DESCRIPTION

The Double Interlock Preaction System Model AGCX Type D from AG Fire Sprinkler is designed for water sensitive areas that require protection from inadvertent water flow into the sprinkler system piping. A refrigerated area is an example of this type of water sensitive environment.

This Deluge Valve is a hydraulically operated, latching clapper-type valve used to control the water supply to a 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 AGCX Deluge Valve can be reset externally, without cover removal. This is achieved by pushing in and turning the external reset knob at the rear of the Deluge Valve.

TECHNICAL DATA

Model	AGCX Type F
Material	Ductile Iron
Nominal size	Grooved: 2" (50 mm), 2 ½" (65 mm) & 3" (80 mm) Flanged: 4" (100 mm), 6" (150 mm) & 8" (200 mm)
Rated working pressure	250 psi (17,2 bar) for 2", 2½", 3", 8" valve sizes 300 psi (20,7 bar) for 4" & 6" valve sizes
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
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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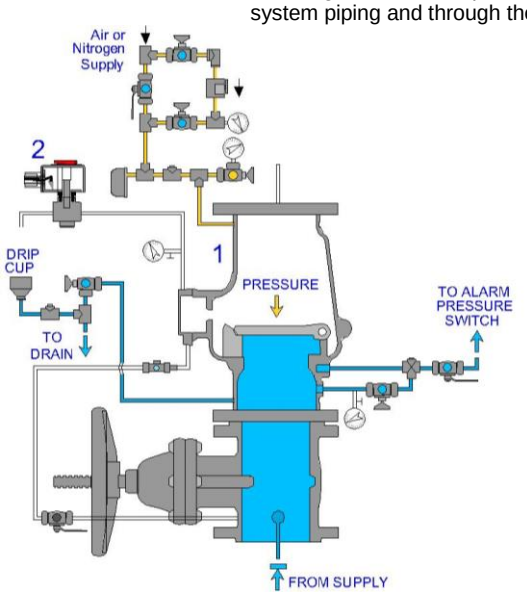
OPERATION: TYPE D DOUBLE INTERLOCK PREACTION AGCX

To flow water into a Type D Double Interlock Preaction System, two events must take place. A fire detection device must operate, and the low pressure switch must be operated by the loss of system air or nitrogen pressure due to sprinkler operation. These two signals must coexist at the releasing control panel, which only then will energize the normally closed solenoid valve **(2)**, causing the water flow into the system.

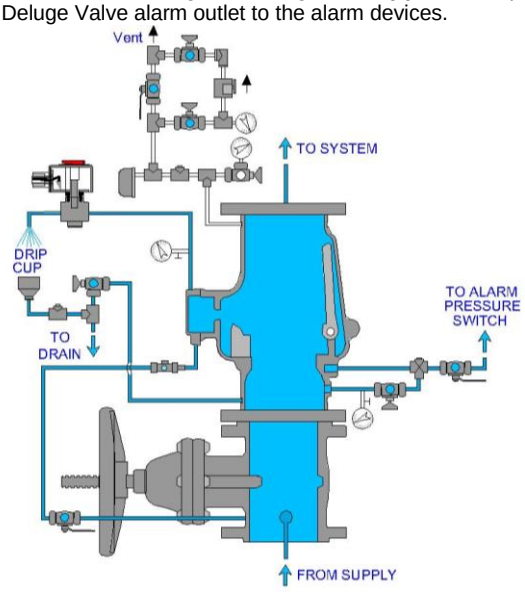
In SET position, the supply pressure acts on the underside of the clapper of the Deluge Valve AGCX **(1)** and also on the push rod through the push rod chamber's inlet restriction. The resultant force due to the supply pressure acting on the push rod is multiplied by the mechanical advantage of the lever and is more than sufficient to hold the clapper closed against normal supply pressure surges.

Whenever a fire and a low system air pressure condition are detected, the energized solenoid valve **(2)** vents the push rod chamber to atmosphere through the chamber's outlet. Since the pressure cannot be replenished through the inlet restriction as rapidly as it is vented, the pushrod chamber pressure falls instantaneously. When the pushrod chamber pressure approaches approximately on-third of the supply pressure, the upward force of the supply pressure acting beneath the clapper overcomes the lever applied force, thereby opening the clapper.

Once the clapper has opened, the lever acts as a latch, preventing the clapper from returning to the closed position. Water flows through the Deluge Valve **(1)** into the sprinkler system piping and through the Deluge Valve alarm outlet to the alarm devices.



VALVE CLOSED (SET POSITION)



VALVE OPENED (OPERATION CONDITION)

DIMENSIONS

Valve Size	End Connection	Dimensions End to End	Weight	Equivalent Length
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) 38,1 ft (11,6 m)
	Flange/ Flange	21 1/4" (540 mm)	197 lbs (90 kg)	
	Flange/ Flange	21 1/4" (540 mm)	259lbs (117,5kg)	

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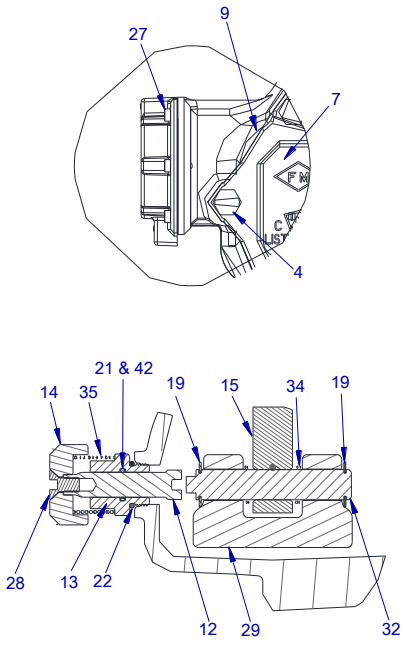
Groove dimensions:

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)

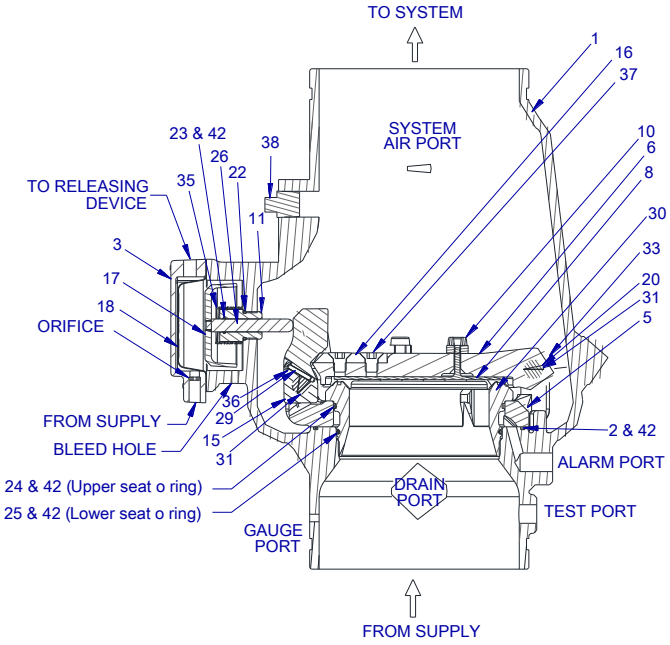
Flange Dimensions:

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

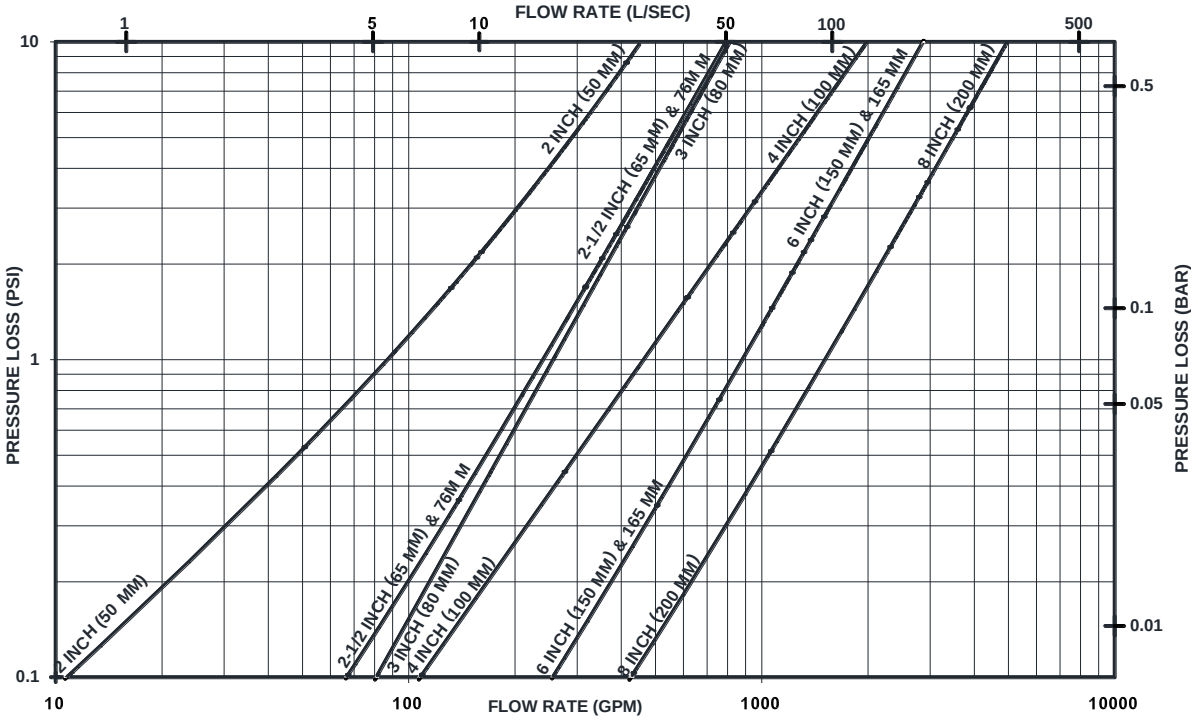
Nº	Part No.						Part Description	QTY	Material
	2"	2½"	3"	4"	6"	8"			
1	91006011	91006012	91006013	91006005	91006007	91006028	Valve Body Groove/Groove	1	Ductile Iron 65-45-12
	N/A	N/A	N/A	91006045	91006067	N/A	Valve Body Flange/Groove		
	N/A	N/A	N/A	91006035	91006037	91006039	Valve Body Flange/Flange		
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
	N/A			N/A	N/A	95606110	Hex Bolt 5/8"-11 x 2"	8	Zinc Plated Steel

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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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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

ORDERING INFORMATION

SIZE	TYPE D PREACTION COMPLETE VALVE	SEPARATED COMPONENTS			
		DELUGE VALVE	TYPE D TRIM	PREMOUNTING SERVICE	MOUNTING & TEST
2” DN50	PAP050DRR0	VD050RR0	TRAP050080D0	PREMTRIMAGCX2	MYPTRIMAGCX2
2 ½” DN65	PAP065DRR0/1	VD065RR0/1	TRAP050080D0	PREMTRIMAGCX2	MYPTRIMAGCX2
3” DN80	PAP080DRR0	VD080RR0	TRAP050080D0	PREMTRIMAGCX2	MYPTRIMAGCX2
4” DN100	PAP100DBR0/1	VD100BR0/1	TRAP100200D0	PREMTRIMAGCX2	MYPTRIMAGCX2
6” DN150	PAP150DBR0	VD150BR0	TRAP100200D0	PREMTRIMAGCX2	MYPTRIMAGCX2
8” DN200	PAP200DBR0/1	VD200BR0/1	TRAP100200D0	PREMTRIMAGCX2	MYPTRIMAGCX2

Specify:

Valve Model	
Type	
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

- Alarm Check Valves for Sprinkler
  - 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 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 data sheet is to be installed in accordance with the latest published Standards of the national fire protection association (NFPA), FM Global, LPCB, VdS or other similar organizations, 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.

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