ASCO™ Solenoid Pilot Valves

For Pneumatic Valves, 32 mm, 50 mm and 63 mm Actuators

3-way, NC, Direct Operated, 1/8" Tapped

3/2
Series
189 banjo
356

Features and Benefits

- *Compact design and low weight enable easy installation on all series 290 and 390 valves with 32 mm, 50 mm and 63 mm actuators*
- *Manual operator allows easy installation*
- *AC/DC interchangeability of the solenoid without disassembly of the valve*
- *Simple installation (supply port, solenoid valve body, coil and connector rotatable through 360°), built-in exhaust regulator (pilot valve series 189 banjo coupling)*
- *Compliance with UL and CSA standards (pilot valve series 356 coupling)*
- *UL429 and EN 60335 certified*
- *The series 189 banjo pilot solenoid valves satisfy all relevant EU Directives*
- *The series 356 pilot solenoid valves satisfy all relevant EU and EAC directives*



189 banjo **356**



General

Differential pressure See Specifications section [1 bar =100 kPa]
Response time See following pages

Pilot (series)	Fluids (∗)	Temperature range (TS) (1)	Seal materials (∗)
189 banjo	Filtered air	-10°C to +60°C (14°F to 140°F)	NBR (nitrile)
356	Filtered air and water		FPM (fluoroelastomer)

(1) The minimum ambient temperature of the solenoid valve is determined by the limitations of minimum temperature indicated.

Materials of components in contact with fluid

(∗) Ensure that compatibility of materials in contact with fluids is verified.

	189 banjo pilot	356 pilot
Body	PA, glass fibre reinforced	Brass or stainless steel AISI 316
Shading coil	Copper	Copper
Core tube	Brass	Stainless steel
Core and plugnut	Stainless steel	Stainless steel
Springs	Stainless steel	Stainless steel
Seals and disk	NBR	FPM
Seats	PA + Stainless steel	Brass or stainless steel



189 banjo pilot

Electrical characteristics

Coil insulation class F
Connector Spade plug (cable Ø 6-8 mm)
Connector specification DIN 43650, 11 mm, industry standard B
Electrical safety IEC 335
Electrical enclosure protection Moulded IP67 (EN 60529) with plug-connector
Standard voltages DC (=) : 12 - 24V
(Other voltages and frequencies on request) AC (~) : 24V/50-60 Hz - 110V/50 Hz (120 V/60Hz) 230V/50-60 Hz

Operator ambient temperature range (TS)	Power ratings			
	Inrush ~	Holding ~		Hot/cold =
°C (°F)	(VA)	(VA)	(W)	(W)
189 banjo pilot (**type 01**)				
-10 to +60 (14 to 140)	6	3.5	2.5	2.5 / 3
356 pilot (**type 02**)				
-10 to +60 (14 to 140)	-	4.5	3	-
	-	-	-	5



356 pilot

Options

- **189 banjo pilot:**
  - M5 exhaust regulator to fit port 3, catalogue number: **34600380**
  - Explosion-proof enclosures for use in zones 1/21-2/22, categories 2-3 to ATEX Directive 2014/34/EU (SG and PV operators)
- **356 pilot:**
  - NSF 169, EC 1935 / 2004 approval, EPDM/FPM disc and seal (Food Grade)

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189 banjo pilot / Type 01 - Specifications

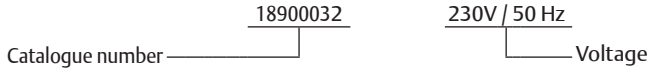
Pipe size	Orifice size		Flow coefficient Kv				Operating pressure differential bar (psi)			Power coil (W)		Thread type	Dimensions / Type (1)	Catalog number
								Max.(PS)						
	2↔1	1-2→3	2↔1		1-2→3			Air (✶)						
	mm (in)	mm (in)	m³/h (Cv)	(l/min)	m³/h (Cv)	(l/min)	Min.	~	=	~	=			
NC - Normally closed, series 189 banjo pilot (with manual operator)														
1/8" (2)	1.2 (3/64)	1.2 (3/64)	0.03 (0.034)	0.5	0.04 (0.046)	0.7	(3)	10 (145)	10 (145)	2.5	3	G	01	**18900032**
NC - Normally closed, series 189 banjo pilot with built-in exhaust regulator (with manual operator)														
1/8" (2) (4)	1.2 (3/64)	1.2 (3/64)	0.03 (0.034)	0.5	0.04 (0.046)	0.7	(3)	10 (145)	10 (145)	2.5	3	G	01	**18900047**

(✶) Ensure that compatibility of materials in contact with fluids is verified.
(1) See Dimensions (pages 5 to 14).
(2) - Port 1: O.D. 4 mm instant fitting (189 banjo) / 1/8 (series 356)
- Port 2: 1/8"
- Port 3 (exhaust): M5
(3) Refer to catalog pages on series 290/390 valves which show the minimum pilot pressure for each version of the product.
(4) Exhaust regulator integrated at port 3, M5.

189 banjo pilot	Response time (in seconds) for NC valve [6 bar (87 psi) pilot air] Valve response times depend on the Kv of the pilot valve used and the size of the valve [orifice size 1.2 mm (3/64 in), max. pilot pressure 10 bar(145 psi)]					
Size of valve	32 mm actuator		50 mm actuator		63 mm actuator	
Ø / DN	O (6)	C (6)	O (6)	C (6)	O (6)	C (6)
3/8" 10	0.04	0.09	-	-	-	-
1/2" 15	0.04	0.09	0.15	0.25	0.12	0.53
3/4" 20	0.05	0.10	0.16	0.27	0.11	0.54
1" 25	-	-	0.4	0.3	0.17	0.52
1 1/4" 32	-	-	-	-	0.18	0.59
1 1/2" 40	-	-	-	-	0.18	0.59
2" 50	-	-	-	-	0.16	0.44

(6) For NO valves, interchange O and C values.

Ordering examples:



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356 pilot / Type 02 - Specifications (1)

Pipe size	Orifice size	Flow coefficient Kv		Operating pressure differential bar (psi)					Power coil (W)		Thread type	dimensions / type (2)	15-DIGIT PRODUCT CODE						
					Max. (PS)								Body		Voltage code				
					Air (∗)		Water (∗)												
	mm (in)	m³/h (Cv)	(l/min)	Min.	~	=	~	=	~	=			Brass (3)	Stainless steel (3)	230 V/50-60 Hz	110 V/50 Hz (120 V / 60 Hz)	24 V/50-60 Hz	12 V/DC	24 V/DC
356 pilot - NC - Normally closed, FPM disc and seal, with manual operator (With maintained manual operator)																			
1/8”	1.6 (1/16)	0.08 (0.09)	1.33	(4)	10 (145)	-	10 (145)	-	3	-	G	02	G356C135S19FL	G356C145S19FL	FH	F0	FQ	F3	F1
											NPT	02	8356C135S19FL	8356C145S19FL					
					-	10 (145)	-	10 (145)	-	5	G	02	G356C150S19FL	G356C160S19FL					
											NPT	02	8356C150S19FL	8356C160S19FL					
356 pilot - NC - Normally closed, FPM disc and seal, without manual operator																			
1/8”	1.6 (1/16)	0.08 (0.09)	1.33	(4)	10 (145)	-	10 (145)	-	3	-	G	02	G356C135S19FM	G356C145S19FM	FH	F0	FQ	F3	F1
											NPT	02	8356C135S19FM	8356C145S19FM					
					-	10 (145)	-	10 (145)	-	5	G	02	G356C150S19FM	G356C160S19FM					
											NPT	02	8356C150S19FM	8356C160S19FM					

(∗) Ensure that compatibility of materials in contact with fluids is verified.
(1) All performances are at ambient temperature of +60°C.
(2) See Dimensions (pages 5 to 14).
(3) Solenoid valve with 1/8” adapter.
(4) Refer to leaflets on series 290/390 valves which show the minimum pilot pressure for each version of the product.

356 pilot	Response time (in seconds) for NC valve [6 bar (87 psi) pilot air] Valve response times depend on the Kv of the pilot valve used and the size of the valve [orifice size 1.6 mm (1/16 in), max. pilot pressure 10 bar (145 psi)]					
Size of valve	32 mm actuator		50 mm actuator		63 mm actuator	
Ø / DN	O (5)	C (5)	O (5)	C (5)	O (5)	C (5)
3/8” 10	-	-	-	-	-	-
1/2” 15	-	-	0.09	0.24	0.16	0.57
3/4” 20	-	-	0.10	0.26	0.2	0.37
1” 25	-	-	0.10	0.3	0.32	0.53
1 1/4” 32	-	-	-	-	0.32	0.6
1 1/2” 40	-	-	-	-	0.32	0.9
2” 50	-	-	-	-	0.32	0.56

(5) For NO valves, interchange O and C values.

Product selection guide

PRODUCT CODE

G 356 C 135 S1 9FL F1

Connection type (with 1/8” adapter)
G = ISO 228/1
8 = NPT (SAE 71051)

Product series
356

Revision letter
C = Initial release

Valves version
135
145
150
160

Electrical interface
S1 = With spade plug connector

Voltage
F1 = 24 V DC Class F
F3 = 12 V DC Class F
FQ = 24 V / 50-60 Hz Class F
F0 = 110 V / 50 Hz (120 V / 60 Hz) Class F
FH = 230 V / 50-60 Hz Class F
ET = 220-230 V / 50 Hz 208-240 V / 60 Hz Class F (6)
H1 = 24 V DC Class H
HH = 230 V / 50-60 Hz Class H

Options
Without manual operator
9FM = FPM Disc and Seal + 1/8” adapter

With manual operator
(With maintained manual operator)
9FL = FPM Disc and Seal + 1/8” adapter

(6) To obtain the correct pressure rating and power absorption check the landing pages of the online configurator. Operating Voltage Range (+10% -10%).

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Repair Kits and Service Parts

356 pilot

	Spare parts kits no. (✶)	
		FPM disk and seal
NC - Normally closed - 1/4" - AC (~) / DC (=)		
356C135/145/150/160	**M200708**	**V00**

(✶) Ensure that compatibility of materials in contact with fluids is verified.

Installation

189 banjo pilot

- The solenoid valves can be mounted in any position without affecting operation
- Thread connection (G) has a standard thread according to ISO 228/1
- Installation/maintenance instructions in multiple languages are available on our website

356 pilot (with 1/8" adapter)

- The solenoid valves can be mounted in any position without affecting operation
- Thread connection (G) has a standard thread according to ISO 228/1
- Thread connection (NPT) has standard thread according to SAE 71051
- Installation/maintenance instructions in multiple languages are available on our website

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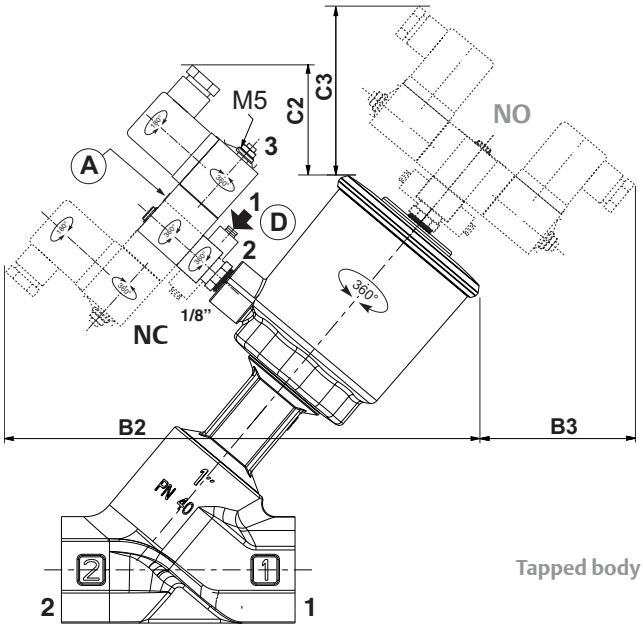
Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 32 mm and 50 mm actuators - 189 banjo pilot for series 290 tapped body, butt welding or clamp connection



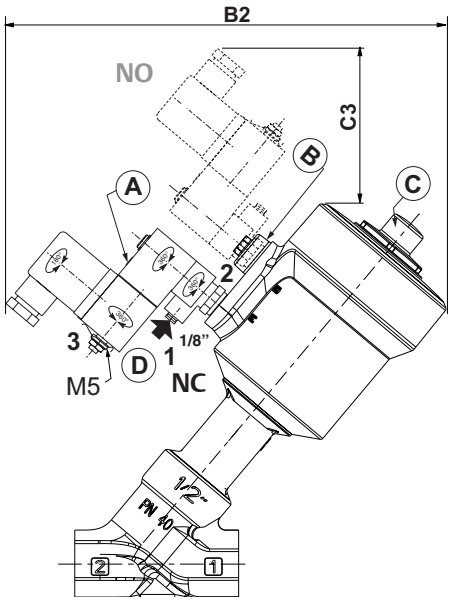
TYPE 01
189 banjo pilot
Epoxy moulded
IEC 335 / DIN 43650
IP65
18900032 - 18900047

32 mm and 50 mm plastic actuators

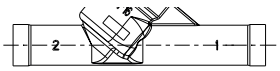


Tapped body

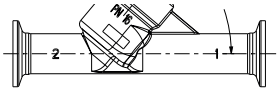
32 mm and 50 mm stainless steel actuators



Butt welding connection



Clamp connection



(A) Manual operator location
(B) Filter-plug (non-removable)
(C) Optical position indicator
(D) Connection to pressure supply with quick-disconnect coupling for 4 mm OD tube

Type	Actuator diameter	ØA		Plastic actuator B2 (NC)	Plastic actuator B3 (NO)	Plastic actuator C2 (NC)	Plastic actuator C3 (NO)	Stainless steel actuator B2 (NC)	Stainless steel actuator C3 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
01	32 mm	G* 3/8"	mm	173.5	94.5	76.5	100	179	97.5	0.5	0.7	kg
		NPT 3/8"	(in)	6.831	3.720	3.012	3.937	7.047	3.839	1	1.6	(Lbs)
		G* 1/2"	mm	173.5	94.5	76.5	100	179	97.5	0.6	0.8	kg
		NPT 1/2"	(in)	6.831	3.720	3.012	3.937	7.047	3.839	1.2	1.7	(Lbs)
		G* 3/4"	mm	173.5	94.5	76.5	100	179	97.5	0.6	0.8	kg
		NPT 3/4"	(in)	6.831	3.720	3.012	3.937	7.047	3.839	1.3	1.8	(Lbs)
	50 mm	G* 1/2"	mm	205.5	85	65.5	91.5	198	84.5	1	1.5	kg
		NPT 1/2"	(in)	8.091	3.346	2.579	3.602	7.795	3.327	2.1	3.2	(Lbs)
		G* 3/4"	mm	205.5	85	65.5	91.5	198	84.5	1.1	1.6	kg
		NPT 3/4"	(in)	8.091	3.346	2.579	3.602	7.795	3.327	2.3	3.4	(Lbs)
		G* 1"	mm	205.5	85	65.5	91.5	198	84.5	1.4	1.9	kg
		NPT 1"	(in)	8.091	3.346	2.579	3.602	7.795	3.327	3	4.1	(Lbs)

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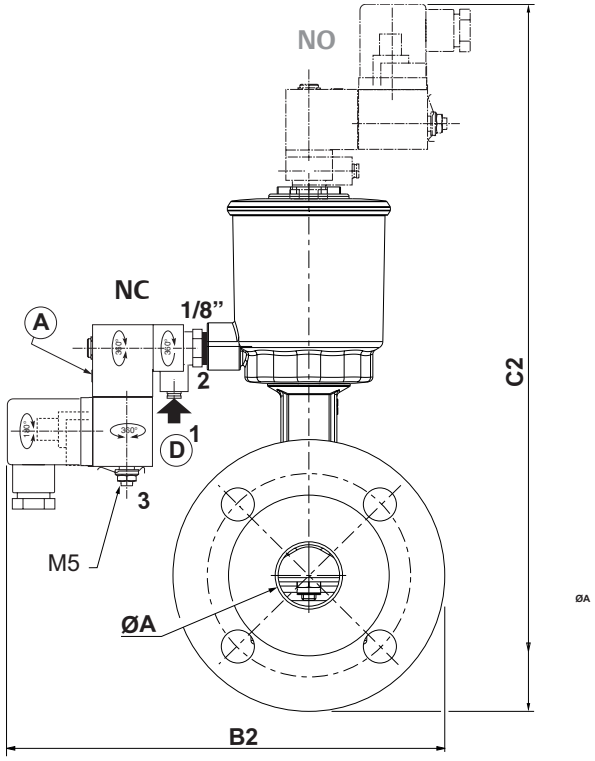
Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 50 mm actuator - 189 banjo pilot
for series 290
flanges body (ISO/ANSI)

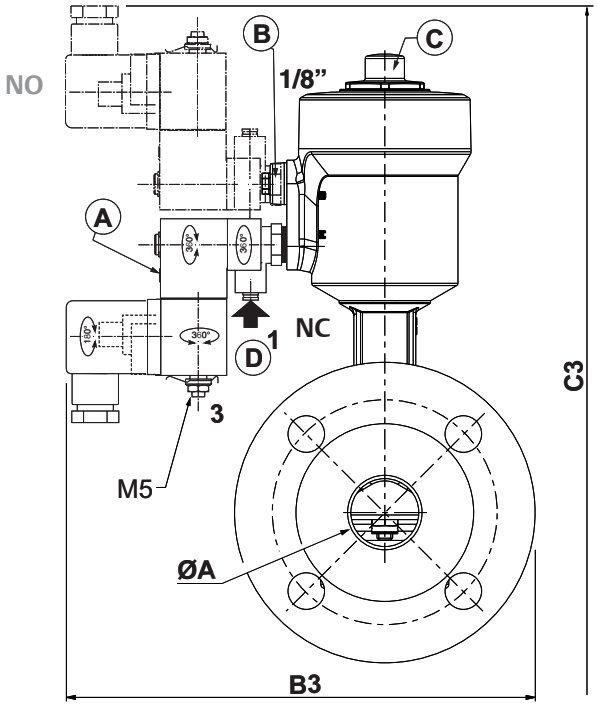


TYPE 01
189 banjo pilot
Epoxy moulded
IEC 335 / DIN 43650
IP65
18900032 - 18900047

Plastic actuator



Stainless steel actuator



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator
Ⓓ Connection to pressure supply with quick-disconnect coupling for 4 mm OD tube

Type	Actuator diameter	DN	ØA		Plastic actuator B2 (NC) ISO	Plastic actuator B2 (NC) ANSI	Plastic actuator C2 (NO) ISO	Plastic actuator C2 (NO) ANSI	Stainless steel actuator B3 (NC) ISO	Stainless steel actuator B3 (NC) ANSI	Stainless steel actuator C3 (NO) ISO	Stainless steel actuator C3 (NO) ANSI	Weight (with pilot) Plastic ISO	Weight (with pilot) Plastic ANSI	Weight (with pilot) Stainless steel ISO	Weight (with pilot) Stainless steel ANSI	
01	50 mm	15	17.3	mm	173.5	171	287	284.5	168	165.5	235.5	233	2.7	2.3	3.1	2.7	kg
			0.681	(in)	6.831	6.732	11.299	11.201	6.614	6.516	9.272	9.173	5.8	5	6.8	6	(Lbs)
		20	22.3	mm	178.5	176	291	288.5	173	170.5	240	237.5	3.5	2.8	4	3.2	kg
			0.878	(in)	7.028	6.929	11.457	11.358	6.811	6.713	9.449	9.350	7.6	6.1	8.7	7.1	(Lbs)
		25	28.5	mm	183.5	181	304.5	302	178	175.5	253	250.5	4.2	3.5	4.7	4	kg
			1.122	(in)	7.224	7.126	11.988	11.890	7.008	6.909	9.961	9.862	9.2	7.6	10.4	8.9	(Lbs)

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Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 32 mm and 50 mm actuators - 356 pilot
for series 290
tapped body, butt welding or clamp connection

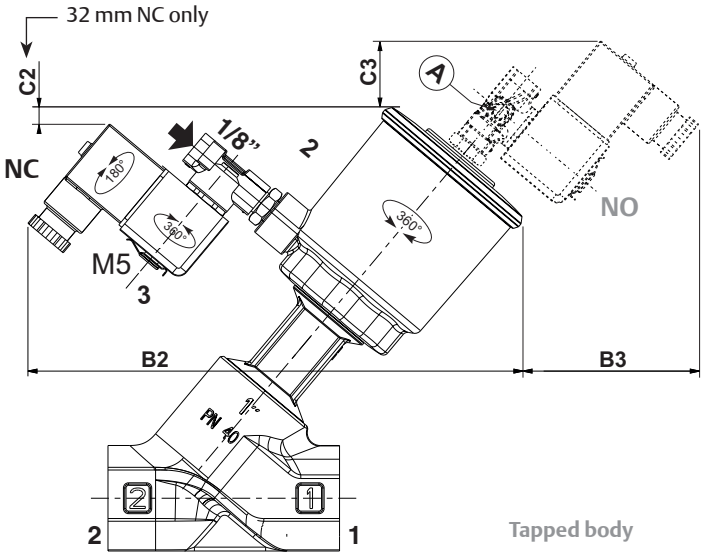


TYPE 02
Pilot 356, brass body
Coil size 20 mm - Thermoplactic moulded
IEC 335 / DIN 43650
IP67
G356C135S19FL/FM - G356C150S19FL/FM

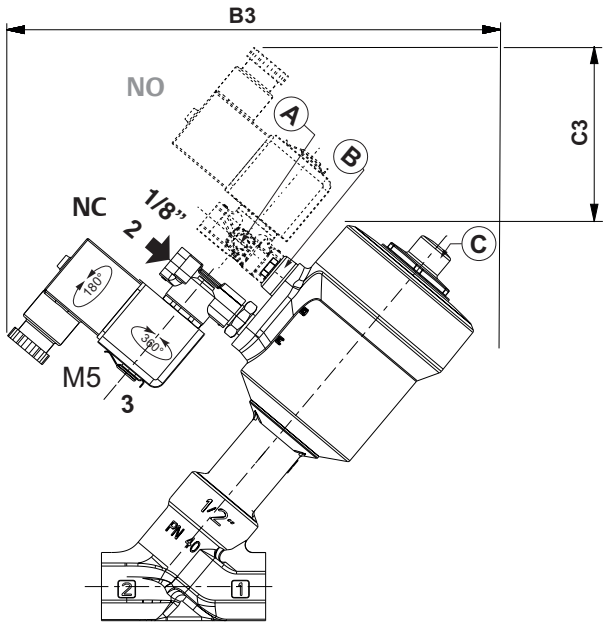


TYPE 02
Pilot 356, stainless steel body
Coil size 20 mm - Thermoplactic moulded
IEC 335 / DIN 43650
IP67
G356C145S19FL/FM - G356C160S19FL/FM

32 and 50 mm plastic actuators

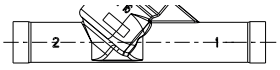


32 and 50 mm stainless steel actuators

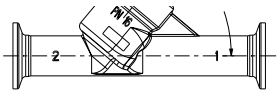


Tapped body

Butt welding connection



Clamp connection



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator

Type	Actuator diameter	ØA		Plastic actuator B2 (NC)	Plastic actuator B3 (NO)	Plastic actuator C2 (NC)	Plastic actuator C3 (NO)	Stainless steel actuator B3 (NC)	Stainless steel actuator C3 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
02	32 mm	G* 3/8"	mm	158.5	80.5	4.5	36.5	165.5	83.5	0.4	0.7	kg
		NPT 3/8"	(in)	6.240	3.169	0.177	1.437	6.516	3.287	0.9	1.5	(Lbs)
		G* 1/2"	mm	158.5	80.5	4.5	36.5	165.5	83.5	0.5	0.7	kg
		NPT 1/2"	(in)	6.240	3.169	0.177	1.437	6.516	3.287	1.1	1.6	(Lbs)
		G* 3/4"	mm	158.5	80.5	4.5	36.5	165.5	83.5	0.6	0.8	kg
		NPT 3/4"	(in)	6.240	3.169	0.177	1.437	6.516	3.287	1.2	1.8	(Lbs)
	50 mm	G* 1/2"	mm	190.5	71	-	28	183	70.5	0.9	1.4	kg
		NPT 1/2"	(in)	7.5	2.8	-	1.1	7.2	2.8	2.0	3.1	(Lbs)
		G* 3/4"	mm	190.5	71	-	28	183	70.5	1.0	1.5	kg
		NPT 3/4"	(in)	7.5	2.8	-	1.1	7.2	2.8	2.2	3.3	(Lbs)
		G* 1"	mm	190.5	71	-	28	183	70.5	1.3	1.8	kg
		NPT 1"	(in)	7.5	2.8	-	1.1	7.2	2.8	2.9	4.0	(Lbs)

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Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 32 mm and 50 mm actuators - 356 pilot
for series 290
flanges body (ISO/ANSI)



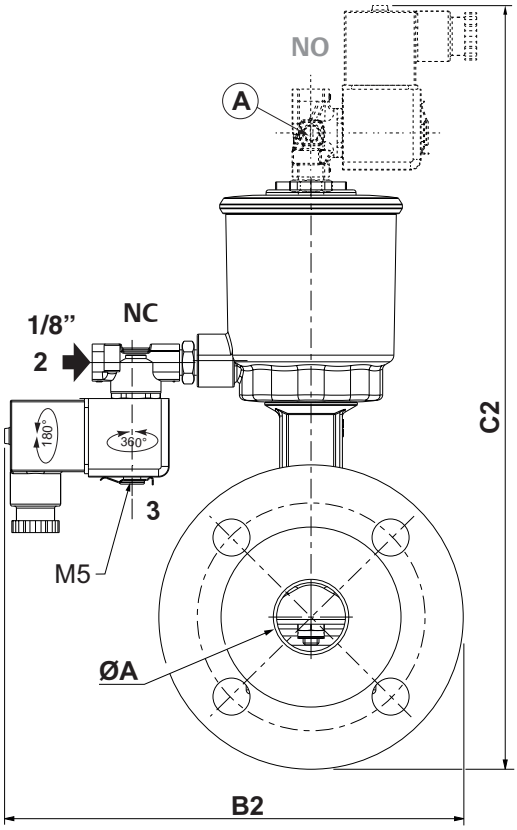
TYPE 02
Pilot 356, brass body
Coil size 20 mm - Thermoplactic moulded
IEC 335 / DIN 43650
IP67
G356C135S19FL/FM - G356C150S19FL/FM

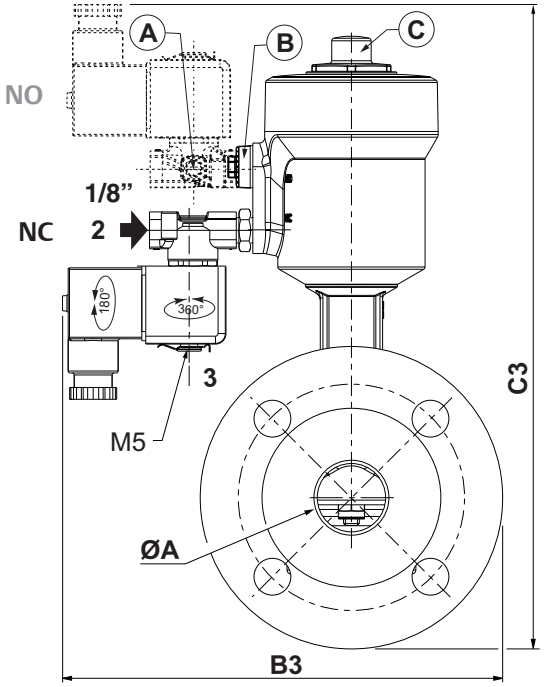
32 and 50 mm plastic actuators



TYPE 02
Pilot 356, stainless steel body
Coil size 20 mm - Thermoplactic moulded
IEC 335 / DIN 43650
IP67
G356C145S19FL/FM - G356C160S19FL/FM

32 and 50 mm stainless steel actuators





Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator

Type	Actuator diameter	DN	ØA		Plastic actuator B2 (NC) ISO	Plastic actuator B2 (NC) ANSI	Plastic actuator C2 (NO) ISO	Plastic actuator C2 (NO) ANSI	Stainless steel actuator B3 (NC/NO) ISO	Stainless steel actuator B3 (NC/NO) ANSI	Stainless steel actuator C3 (NO) ISO	Stainless steel actuator C3 (NO) ANSI	Weight (with pilot) Plastic ISO	Weight (with pilot) Plastic ANSI	Weight (with pilot) Stainless steel ISO	Weight (with pilot) Stainless steel ANSI	
02	50 mm	15	17.3	mm	162	159.5	276	273.5	156.5	154	229	226.5	2.6	2.2	3.1	2.6	kg
			0.681	(in)	6.378	6.280	10.866	10.768	6.161	6.063	9.016	8.917	5.8	4.9	6.7	5.8	(Lbs)
		20	22.3	mm	167	164.5	280	277.5	161.5	159	233.5	231	3.4	2.7	3.9	3.2	kg
			0.878	(in)	6.575	6.476	11.024	10.925	6.358	6.260	9.193	9.094	7.5	6.0	8.6	7.0	(Lbs)
		25	28.5	mm	172	169.5	293.5	291	166.5	164	246.5	244	4.1	3.4	4.7	4	kg
			1.122	(in)	6.772	6.673	11.555	11.457	6.555	6.457	9.705	9.606	9.1	7.5	10.3	8.8	(Lbs)

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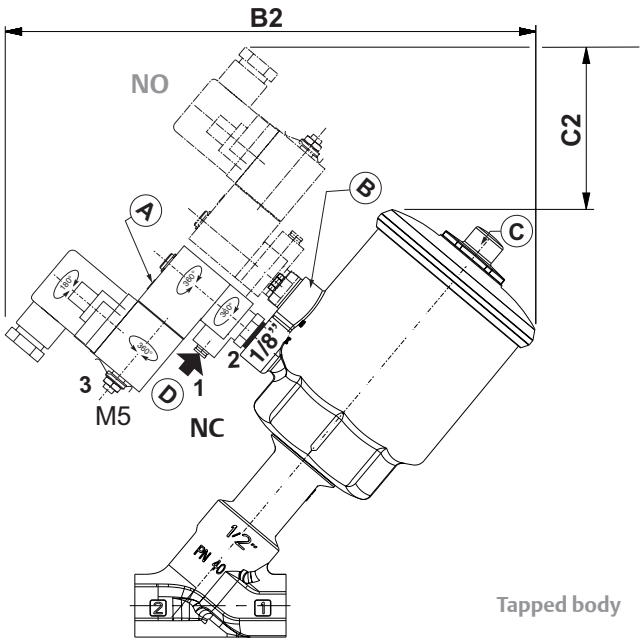
Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 63 mm actuator - 189 banjo pilot
for series 290
tapped body, butt welding or clamp connection

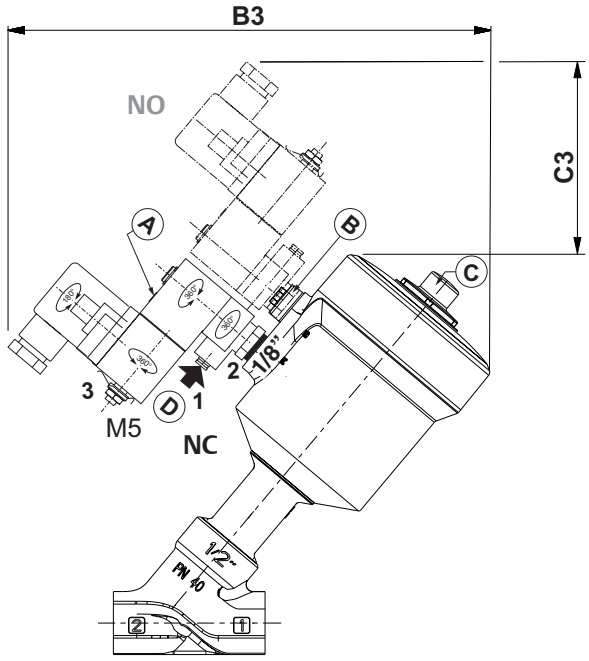


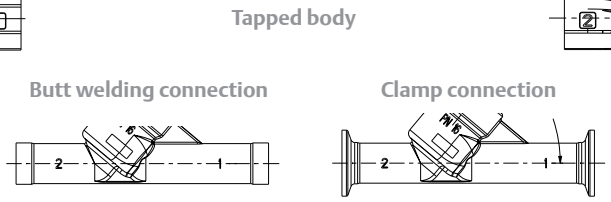
TYPE 01
189 banjo pilot
Epoxy moulded
IEC 335 / DIN 43650
IP65
18900032 - 18900047

63 mm plastic actuator



63 mm stainless steel actuator





Tapped body

Butt welding connection

Clamp connection

Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator
Ⓓ Connection to pressure supply with quick-disconnect coupling for 4 mm OD tube

Type	Actuator diameter	ØA		Plastic actuator B2 (NC)	Plastic actuator C2 (NO)	Stainless steel actuator B3 (NC)	Stainless steel actuator C3 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
01	63 mm	G* 1/2"	mm	228.5	70	208.5	83.5	1.2	2.0	kg
		NPT 1/2"	(in)	8.996	2.756	8.209	3.287	2.5	4.3	(Lbs)
		G* 3/4"	mm	228.5	70	208.5	83.5	1.3	2.1	kg
		NPT 3/4"	(in)	8.996	2.756	8.209	3.287	2.8	4.5	(Lbs)
		G* 1"	mm	228.5	70	208.5	83.5	1.7	2.4	kg
		NPT 1"	(in)	8.996	2.756	8.209	3.287	3.6	5.2	(Lbs)
		G* 1 1/4"	mm	228.5	70	208.5	83.5	2.1	2.8	kg
		NPT 1 1/4"	(in)	8.996	2.756	8.209	3.287	4.5	6.1	(Lbs)
		G* 1 1/2"	mm	228.5	70	208.5	83.5	2.7	3.4	kg
		NPT 1 1/2"	(in)	8.996	2.756	8.209	3.287	5.8	7.4	(Lbs)
		G* 2"	mm	228.5	70	208.5	83.5	3.5	4.2	kg
		NPT 2"	(in)	8.996	2.756	8.209	3.287	7.6	9.2	(Lbs)

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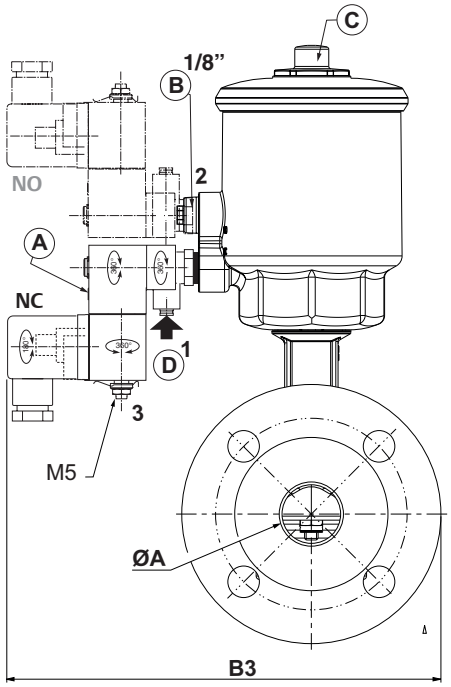
Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 63 mm actuator - 189 banjo pilot
for series 290
flanges body (ISO/ANSI)

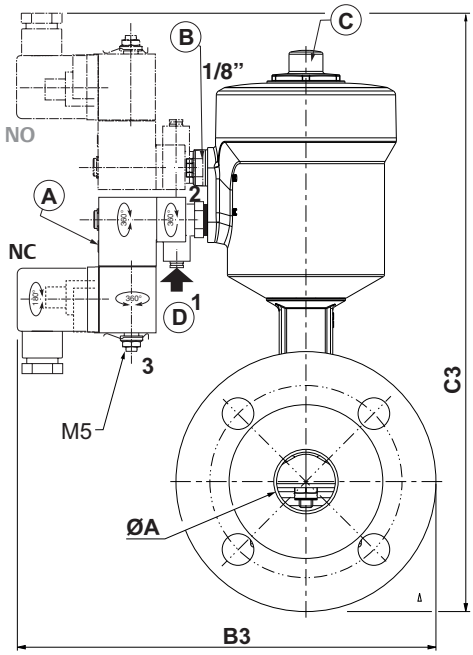


TYPE 01
189 banjo pilot
Epoxy moulded
IEC 335 / DIN 43650
IP65
18900032 - 18900047

63 mm plastic actuator



63 mm stainless steel actuator



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator
Ⓓ Connection to pressure supply with quick-disconnect coupling for 4 mm OD tube

Type	Actuator diameter	DN	ØA		Plastic actuator B3 (NC/NO)		Stainless steel actuator B3 (NC/NO)		Stainless steel actuator C3 (NO)		Weight (with pilot) Plastic		Weight (with pilot) Stainless steel		
					ISO	ANSI	ISO	ANSI	ISO	ANSI	ISO	ANSI	ISO	ANSI	
01	63 mm	15	17.3	mm	180.5	178	174	171.5	248.5	246	3.0	2.6	3.6	3.2	kg
			0.681	(in)	7.106	7.008	6.850	6.752	9.783	9.685	6.5	5.6	8.0	7.1	(Lbs)
		20	22.3	mm	185.5	183	179	176.5	252.5	250	3.7	3.0	4.4	3.7	kg
			0.878	(in)	7.303	7.205	7.047	6.949	9.941	9.843	8.1	6.5	9.8	8.2	(Lbs)
		25	28.5	mm	190.5	188	184	181.5	266	263.5	4.6	3.9	5.2	4.5	kg
			1.122	(in)	7.500	7.402	7.244	7.146	10.472	10.374	10.0	8.5	11.4	9.9	(Lbs)
		32	37.2	mm	203	190.5	196.5	184	295.5	283	6.4	4.9	7.0	5.6	kg
			1.465	(in)	7.992	7.500	7.736	7.244	11.634	11.142	14.0	10.7	15.5	12.3	(Lbs)
		40	43.1	mm	208	195.5	201.5	189	297.5	285	7.4	6.2	8.1	6.9	kg
			1.697	(in)	8.189	7.697	7.933	7.441	11.713	11.220	16.2	13.6	17.9	15.1	(Lbs)
		50	54.5	mm	215.5	208	209	201.5	315.5	308	10.2	9.1	10.8	9.8	kg
			2.146	(in)	8.484	8.189	8.228	7.933	12.421	12.126	22.4	20.0	23.9	21.6	(Lbs)

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Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 63 mm actuator - 356 pilot
for series 290
tapped body, butt welding or clamp connection



TYPE 02
Pilot 356, brass body
Epoxy moulded
IEC 335 / DIN 43650 / IP65

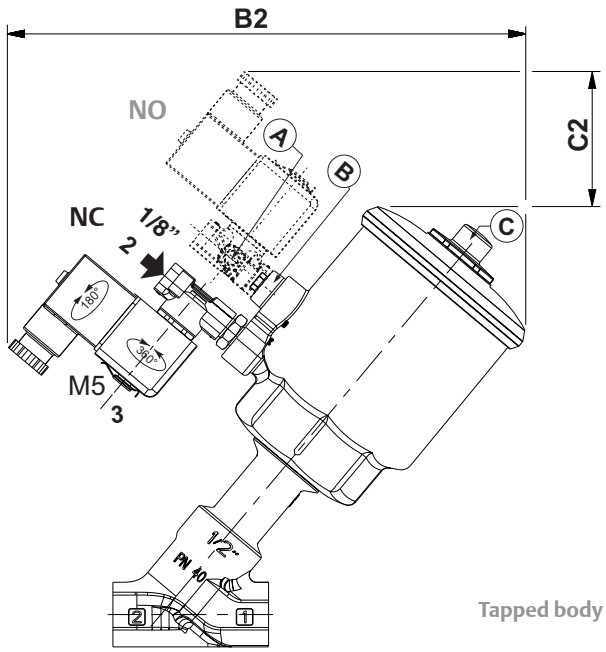
G356C135S19FL/FM - G356C150S19FL/FM



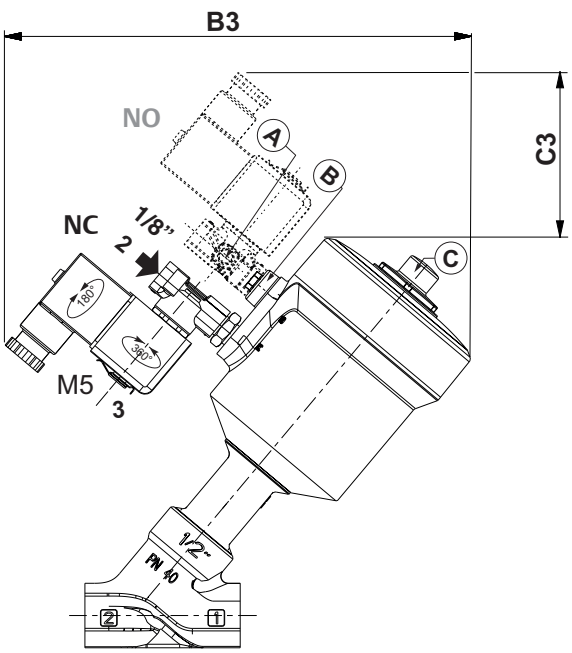
TYPE 02
Pilot 356, stainless steel body
Epoxy moulded
IEC 335 / DIN 43650 / IP65

G356C145S19FL/FM - G356C160S19FL/FM

63 mm plastic actuator

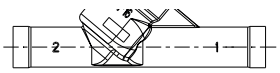


63 mm stainless steel actuator

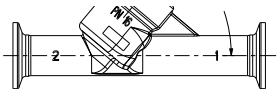


Tapped body

Butt welding connection



Clamp connection



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator

Type	Actuator diameter	ØA		Plastic actuator B2 (NC)	Plastic actuator C2 (NO)	Stainless steel actuator B3 (NC)	Stainless steel actuator C3 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
02	63 mm	G* 1/2"	mm	213.5	56	193.5	69.5	1.1	1.9	kg
		NPT 1/2"	(in)	8.406	2.205	7.618	2.736	2.4	4.2	(Lbs)
		G* 3/4"	mm	213.5	56	193.5	69.5	1.2	2.0	kg
		NPT 3/4"	(in)	8.406	2.205	7.618	2.736	2.7	4.4	(Lbs)
		G* 1"	mm	213.5	56	193.5	69.5	1.6	2.3	kg
		NPT 1"	(in)	8.406	2.205	7.618	2.736	3.5	5.1	(Lbs)
		G* 1 1/4"	mm	213.5	56	193.5	69.5	2.0	2.7	kg
		NPT 1 1/4"	(in)	8.406	2.205	7.618	2.736	4.4	6.0	(Lbs)
		G* 1 1/2"	mm	213.5	56	193.5	69.5	2.6	3.3	kg
		NPT 1 1/2"	(in)	8.406	2.205	7.618	2.736	5.8	7.3	(Lbs)
		G* 2"	mm	213.5	56	193.5	69.5	3.4	4.1	kg
		NPT 2"	(in)	8.406	2.205	7.618	2.736	7.5	9.1	(Lbs)

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Dimensions mm (inches), **Weight** kg (Lbs)

2-way - 63 mm actuator - 356 pilot
for series 290
flanges body (ISO/ANSI)

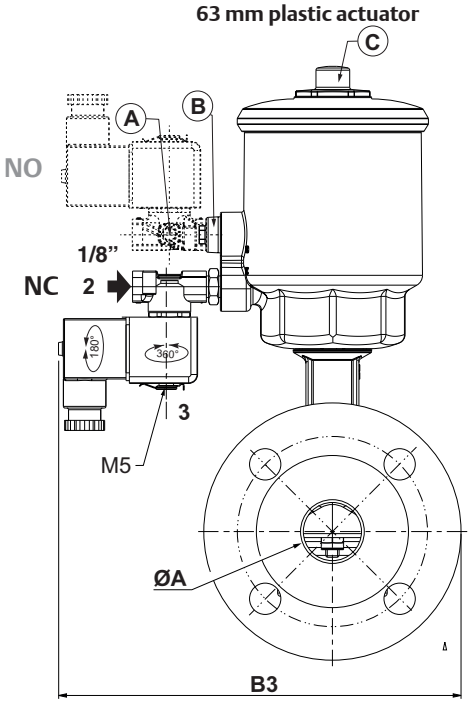


TYPE 02
Pilot 356, brass body
Epoxy moulded
IEC 335 / DIN 43650 / IP65
G356C135S19FL/FM - G356C150S19FL/FM

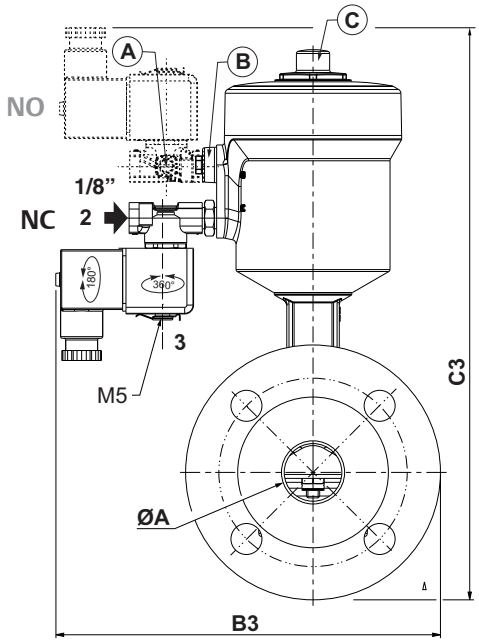


TYPE 02
Pilot 356, stainless steel body
Epoxy moulded
IEC 335 / DIN 43650 / IP65
G356C145S19FL/FM - G356C160S19FL/FM

63 mm plastic actuator



63 mm stainless steel actuator



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator

Type	Actuator diameter	DN	ØA		Plastic actuator B3 (NC/NO) ISO	Plastic actuator B3 (NC/NO) ANSI	Stainless steel actuator B3 (NC/NO) ISO	Stainless steel actuator B3 (NC/NO) ANSI	Stainless steel actuator C3 (NO) ISO	Stainless steel actuator C3 (NO) ANSI	Weight (with pilot) Plastic ISO	Weight (with pilot) Plastic ANSI	Weight (with pilot) Stainless steel ISO	Weight (with pilot) Stainless steel ANSI	
02	63 mm	15	17.3	mm	169	166.5	162.5	160	241.5	239	2.9	2.5	3.6	3.2	kg
			0.681	(in)	6.654	6.555	6.398	6.299	9.508	9.409	6.4	5.5	7.9	7.0	(Lbs)
		20	22.3	mm	174	171.5	167.5	165	245.5	243	3.6	2.9	4.4	3.7	kg
			0.878	(in)	6.850	6.752	6.594	6.496	9.665	9.567	8.0	6.4	9.7	8.1	(Lbs)
		25	28.5	mm	179	176.5	172.5	170	259	256.5	4.5	3.8	5.1	4.4	kg
			1.122	(in)	7.047	6.949	6.791	6.693	10.197	10.098	9.9	8.4	11.3	9.8	(Lbs)
		32	37.2	mm	191.5	179	185	172.5	288.5	276	6.3	4.8	7.0	5.5	kg
			1.465	(in)	7.539	7.047	7.283	6.791	11.358	10.866	13.9	10.6	15.4	12.2	(Lbs)
		40	43.1	mm	196.5	184	190	177.5	290.5	278	7.3	6.1	8.1	6.8	kg
			1.697	(in)	7.736	7.244	7.480	6.988	11.437	10.945	16.1	13.5	17.8	15.0	(Lbs)
		50	54.5	mm	204	196.5	197.5	190	308.5	301	10.1	9.0	10.8	9.8	kg
			2.146	(in)	8.031	7.736	7.776	7.480	12.146	11.850	22.3	19.9	23.8	21.5	(Lbs)

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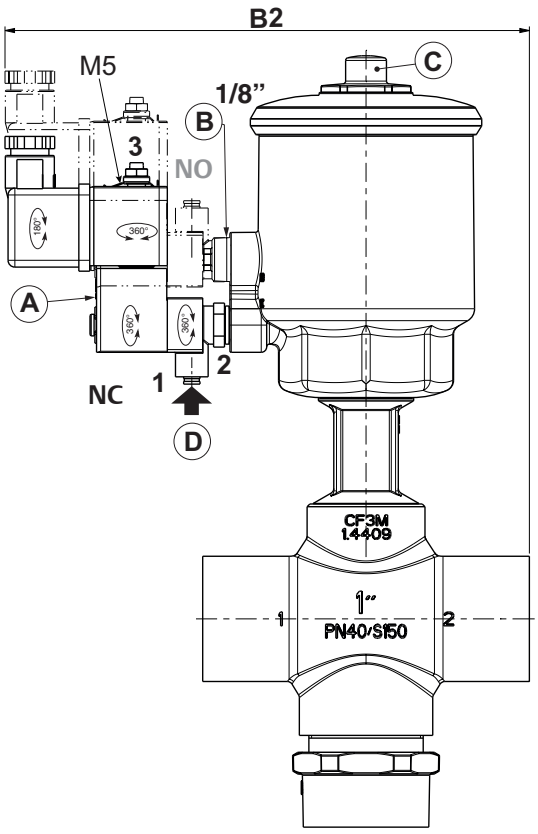
Dimensions mm (inches), **Weight** kg (Lbs)

3-way - 63 mm actuator - 189 banjo pilot
for series 390
tapped body

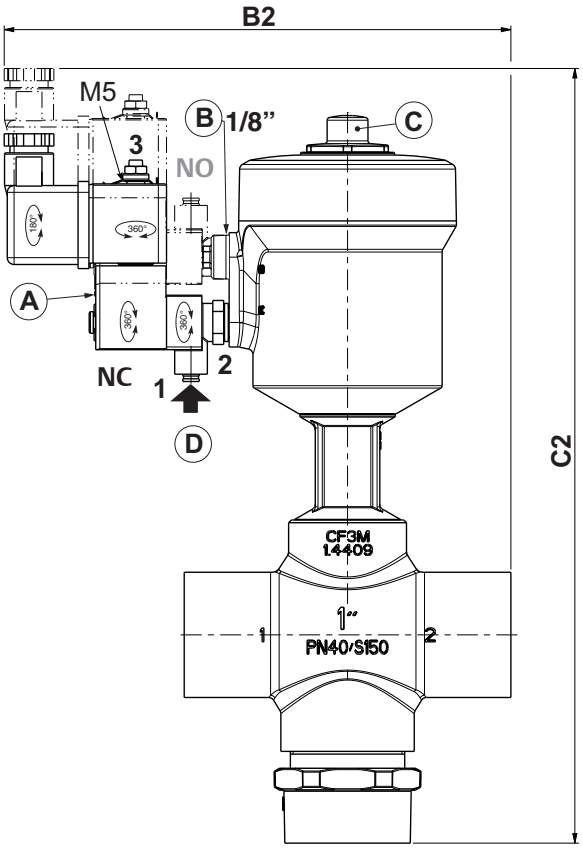


TYPE 01
189 banjo pilot
Epoxy moulded
IEC 335 / DIN 43650
IP65
18900032 - 18900047

63 mm plastic actuator



63 mm stainless steel actuator



(A) Manual operator location
(B) Filter-plug (non-removable)
(C) Optical position indicator
(D) Connection to pressure supply with quick-disconnect coupling for 4 mm OD tube

Type	Actuator diameter	ØA		Plastic actuator B2 (NC/NO)	Stainless steel actuator B2 (NC/NO)	Stainless steel actuator C2 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
01	63 mm	G* 1/2"	mm	175	169	266.5	1.7	2.4	kg
		NPT 1/2"	(in)	6.894	6.638	10.492	3.8	5.2	(Lbs)
		G* 3/4"	mm	188	181	269	2.0	2.8	kg
		NPT 3/4"	(in)	7.386	7.130	10.591	4.5	6.2	(Lbs)
		G* 1"	mm	193	186	284.5	2.5	3.2	kg
		NPT 1"	(in)	7.583	7.327	11.201	5.6	7.1	(Lbs)
		G* 1 1/4"	mm	205	199	303	3.6	4.3	kg
		NPT 1 1/4"	(in)	8.075	7.819	11.929	7.9	9.4	(Lbs)
		G* 1 1/2"	mm	208	201	308.5	4.3	5.1	kg
		NPT 1 1/2"	(in)	8.173	7.917	12.146	9.4	11.1	(Lbs)

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Dimensions mm (inches), Weight kg (Lbs)

3-way - 50 mm and 63 mm actuators - 356 pilot for series 390 tapped body



TYPE 02
Pilot 356, brass body
Epoxy moulded
IEC 335 / DIN 43650 / IP65

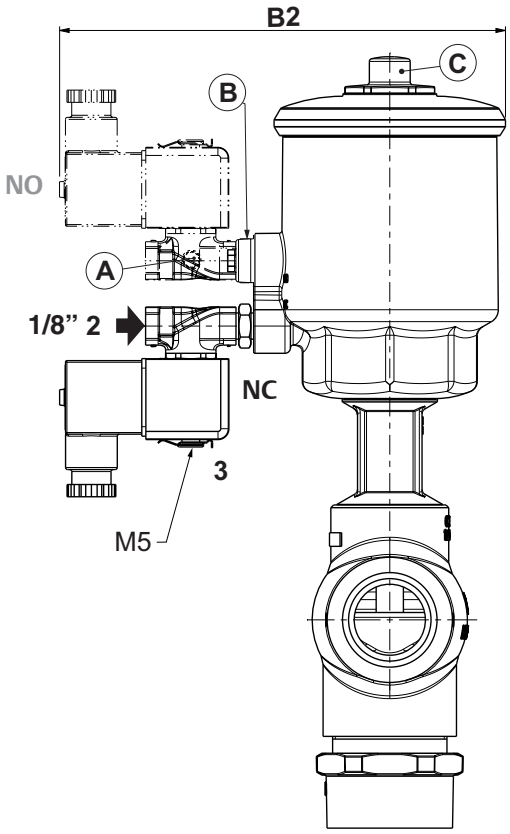
G356C135S19FL/FM - G356C150S19FL/FM



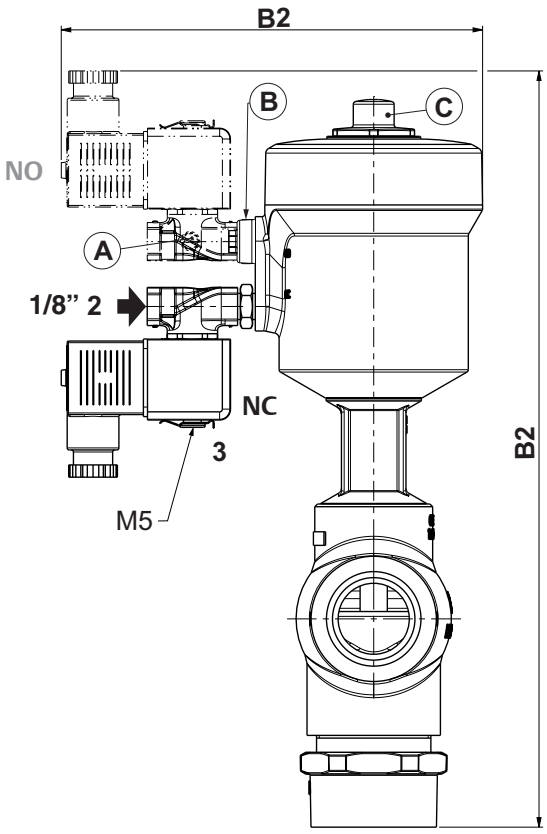
TYPE 02
Pilot 356, stainless steel body
Epoxy moulded
IEC 335 / DIN 43650 / IP65

G356C145S19FL/FM - G356C160S19FL/FM

63 mm plastic actuator



50 and 63 mm stainless steel actuators



Ⓐ Manual operator location
Ⓑ Filter-plug (non-removable)
Ⓒ Optical position indicator

Type	Actuator diameter	ØA		Plastic actuator B2 (NC/NO)	Stainless steel actuator B2 (NC/NO)	Stainless steel actuator C2 (NO)	Weight (with pilot) Plastic	Weight (with pilot) Stainless steel	
02	63 mm	G* 1/2"	mm	164	155	260	1.7	2.3	kg
		NPT 1/2"	(in)	6.448	6.094	10.236	3.7	5.1	(Lbs)
		G* 3/4"	mm	164	155	262.5	2.0	2.8	kg
		NPT 3/4"	(in)	6.448	6.094	10.335	4.4	6.1	(Lbs)
		G* 1"	mm	164	155	278	2.5	3.2	kg
		NPT 1"	(in)	6.448	6.094	10.945	5.5	7.0	(Lbs)
		G* 1 1/4"	mm	164	155	296.5	3.5	4.2	kg
		NPT 1 1/4"	(in)	6.448	6.094	11.673	7.8	9.3	(Lbs)
		G* 1 1/2"	mm	164	155	302	4.2	5.0	kg
		NPT 1 1/2"	(in)	6.448	6.094	11.890	9.3	11.0	(Lbs)

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