



# DirectoValve® B Style Electric Motors and Valves

## Shutoff/Control Motors

Boom Control motors are 22 RPM for 344B series (0.7 second shutoff valves) and 25 RPM for 346B and 356 series (0.6 second shutoff valves) for 12 VDC systems. Available with E or EC series motors with DIN or CABLE versions. E type motors work with DPDT (double pole, double throw) switch. EC type motors work with simple SPST (single pole, single throw) on/off switch and are compatible with all sprayer controls.

Current draw less than 2 amps (1.7 amps at 40 in.-lbs.).

Electrical connectors can be ordered with a standard number. See page 117 for more information.

**Note:** 2-way control motors can be rotated 180° to change the cable outlet direction on the valve. There is also an adapter to rotate motors 90°, contact your local representative for more information.

An internal fuse protects the valve and your electrical system, and it resets automatically by disconnecting power to the motor for 20 seconds.

Direct coupled visual indicator to verify position/operation. Yellow oval indicates 22 RPM motor. Yellow diamond indicates 25 RPM motor.

Cover fits snugly over the motor cavity to reduce air space and eliminate condensation. It's sealed and sonically welded to comply with the IP67 rating for submersion under water.

Permanent etched marking with complete motor number and date coded (year, month, day).

Double-wall construction of the gearbox increases strength and maintains permanent lubrication of the durable, all-metal gears.

Motor head assembly is easily detached by pulling a retaining pin allowing manual operation or easy replacement of the motor.

Available for either positive or negative switched electrical systems with a sturdy, built-in double sealed grommet and flat gasket that seals the DIN connector versions. Motor and DIN cables are made of polyurethane.



## Regulating Motors

Choosing the proper regulating motor speed is important to maximizing the sprayer's performance. Three speeds are offered at this time: 1 RPM, 3 RPM and 6 RPM. The 1 RPM speed is used mostly in manual systems; it is too slow for automated rate control. The other two speeds are used in automated systems. The 3 RPM is the most popular and opens the valve to the maximum flow in about 6 seconds for the RL valve and about 10 seconds for the PR valves. The 6 RPM motor cuts those times in half.

## DIN and Cable Electrical Connector

Both DIN and motor cables are made of polyurethane and are pressure extruded creating a round cable for improved sealing. Polyurethane has twice the strength and three times the tear and abrasion resistance of PVC. Motor cables include over-molded plugs that seal off the ends of cables and wires to prevent seepage. Conductor insulation uses familiar color coding of red, white and black.

DIN cable connectors are constructed of a special over molded elastomeric material that does not require a flat gasket to be sealed. The center screw is made of stainless steel.

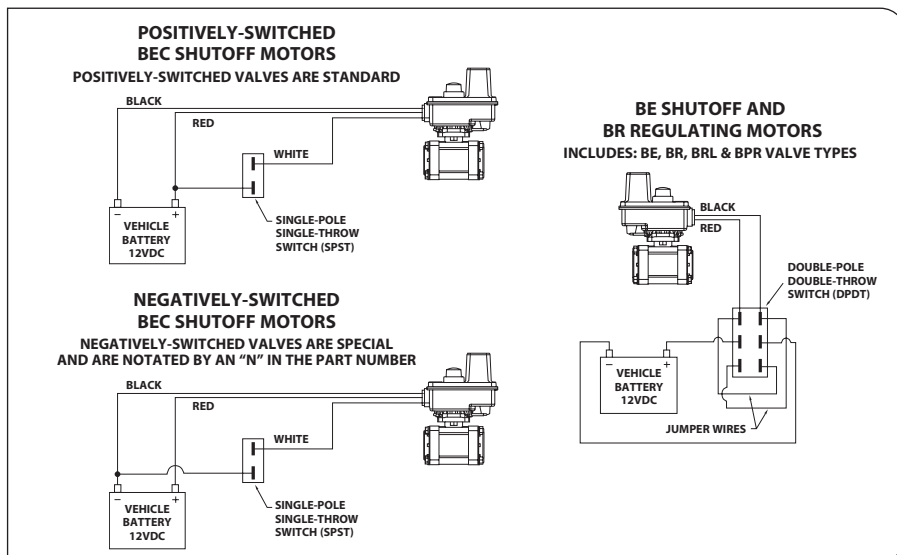
## How to Order:

Example: 38082-30, 10 ft. (3 meter) DIN cable.



DIN CABLE	CABLE
38082-05	1.5' (0.5 meter) DIN cable
38082-15	5' (1.5 meter) DIN cable
38082-30	10' (3 meter) DIN cable
38082-60	20' (6 meter) DIN cable

DIN cables are ordered separately.





## B Style Shutoff Motor Numbers

344B, 440B, 450B, 460B SERIES			CURRENT DRAW (AMPS)**	346B, 356 AND 490 SERIES			CURRENT DRAW (AMPS)**		CABLE LENGTH
BEC POSITIVE SWITCH MOTOR	*BEC NEGATIVE SWITCH MOTOR	BE SWITCH MOTOR	344B, 440B, 450B, 460B	BEC POSITIVE SWITCH MOTOR	*BEC NEGATIVE SWITCH MOTOR	BE SWITCH MOTOR	346B	356, 490	
50515-22CP03	* 50515-22CN03	* 50533-22C03	1.1	50515-25CP03	* 50515-25CN03	* 50533-25C03	1.75	2.2	1.0' (0.3 meter) cable
50515-22CP05	* 50515-22CN05	50533-22C05	1.1	50515-25CP05	* 50515-25CN05	50533-25C05	1.75	2.2	1.5' (0.5 meter) cable
50515-22CP15	* 50515-22CN15	* 50533-22C15	1.1	50515-25CP15	* 50515-25CN15	* 50533-25C15	1.75	2.2	5' (1.5 meter) cable
50515-22CP60	* 50515-22CN60	* 50533-22C60	1.1	50515-25CP60	* 50515-25CN60	* 50533-25C60	1.75	2.2	20' (6 meter) cable
50515-22DP	* 50515-22DN	* 50533-22D	1.1	50515-25DP	* 50515-25DN	* 50533-25D	1.75	2.2	DIN Electrical Connector

Items marked with "\*" are non-stock items.

\*\* Current draw is a nominal rating @ 13.8 VDC and will vary dependent upon valve usage and chemicals used.

**Note:** DIN cables are ordered separately.

## \*Bypass Valve (Normally Open) BEC Motors

344B, 440B, 450B, 460B SERIES			CURRENT DRAW (AMPS)**	346B, 356 AND 490 SERIES			CURRENT DRAW (AMPS)**		CABLE LENGTH
BEC POSITIVE SWITCH MOTOR	*BEC NEGATIVE SWITCH MOTOR	BE SWITCH MOTOR	344B, 440B, 450B, 460B	BEC POSITIVE SWITCH MOTOR	*BEC NEGATIVE SWITCH MOTOR	BE SWITCH MOTOR	346B	356, 490	
50994-22CP03	* 50994-22CN03	* 50533-22C03	1.1	50994-25CP03	* 50994-25CN03	* 50533-25C03	1.75	2.2	1.0' (0.3 meter) cable
50994-22CP05	* 50994-22CN05	50533-22C05	1.1	50994-25CP05	* 50994-25CN05	50533-25C05	1.75	2.2	1.5' (0.5 meter) cable
50994-22CP15	* 50994-22CN15	* 50533-22C15	1.1	50994-25CP15	* 50994-25CN15	* 50533-25C15	1.75	2.2	5' (1.5 meter) cable
50994-22CP60	* 50994-22CN60	* 50533-22C60	1.1	50994-25CP60	* 50994-25CN60	* 50533-25C60	1.75	2.2	20' (6 meter) cable
50994-22DP	* 50994-22DN	* 50533-22D	1.1	50994-25DP	* 50994-25DN	* 50533-25D	1.75	2.2	DIN Electrical Connector

Items marked with "\*" are non-stock items.

\*\* Current draw is a nominal rating @ 13.8 VDC and will vary dependent upon valve usage and chemicals used.

**Note:** DIN cables are ordered separately.

## 344B & 346B Regulating Motors

SPEED (RPM)	R & RL MOTOR NO.	PR MOTOR NO.	CURRENT DRAW (AMPS)**		CABLE LENGTH
			AA344B	AA346B	
1	* 50516-01C03	* 50996-01C03	0.10	0.12	1.0' (0.3 meter) cable
1	* 50516-01C05	* 50996-01C05	0.10	0.12	1.5' (0.5 meter) cable
1	* 50516-01C15	* 50996-01C15	0.10	0.12	5' (1.5 meter) cable
1	* 50516-01C60	* 50996-01C60	0.10	0.12	20' (6 meter) cable
1	* 50516-01D	* 50996-01D	0.10	0.12	DIN Electrical Connector
3	* 50516-03C03	* 50996-03C03	0.15	0.20	1.0' (0.3 meter) cable
3	* 50516-03C05	* 50996-03C05	0.15	0.20	1.5' (0.5 meter) cable
3	* 50516-03C15	* 50996-03C15	0.15	0.20	5' (1.5 meter) cable
3	* 50516-03C60	* 50996-03C60	0.15	0.20	20' (6 meter) cable
3	* 50516-03D	* 50996-03D	0.15	0.20	DIN Electrical Connector
6	* 50516-06C03	* 50996-06C03	0.43	0.50	1.0' (0.3 meter) cable
6	* 50516-06C05	* 50996-06C05	0.43	0.50	1.5' (0.5 meter) cable
6	* 50516-06C15	* 50996-06C15	0.43	0.50	5' (1.5 meter) cable
6	* 50516-06C60	* 50996-06C60	0.43	0.50	20' (6 meter) cable
6	* 50516-06D	* 50996-06D	0.43	0.50	DIN Electrical Connector

Items marked with "\*" are non-stock items.

\*\* Current draw is a nominal rating @ 13.8 VDC and will vary dependent upon valve usage and chemicals used.

**Note:** DIN cables are ordered separately. See page 78 for DIN cable options.



# DirectoValve® Electric Regulating Valves

## DirectoValve® Electric Pressure Regulating Valves

The proper regulating valve will enhance the operation of a sprayer, especially one with an automatic rate controller. While advanced electronics provide features and control, the proper regulating valve helps the system to respond quickly to input changes and functions over a wide range of application rates. Choosing the proper valve involves determining the maximum capacity required, the range of application rates and the proper motor speed.

## System Capacity

A regulating valve's system requirements will depend on the application amount and the pumping capacity. Additionally, the regulating valve can be used in bypass or throttling mode. In throttling mode, the flow through the valve will be applied through the nozzles. In bypass mode, the excess flow

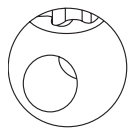
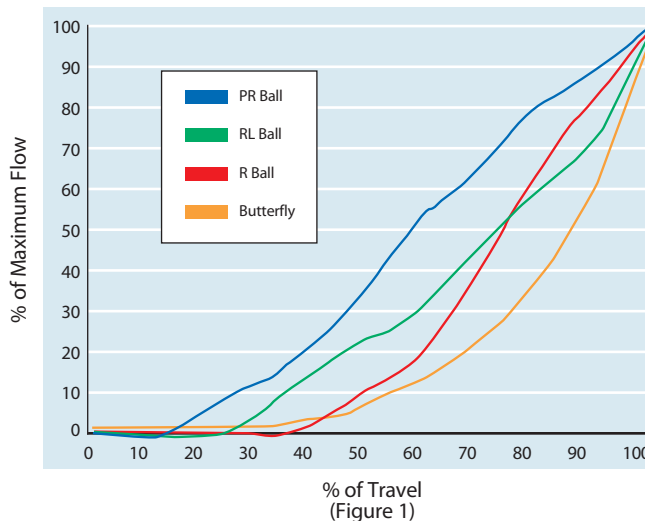
from the pump is recirculated. A valve that works well throughout the flow spectrum has the best chance to work in all situations.

## Types of Regulating Valves

Special ball shapes make regulating valves more responsive and able to work with both high and low application rates. Most agricultural sprayers use either a

2-way ball valve or butterfly valve for regulating purposes. When considering sizing a regulating valve, the first concern is to understand the valve's flow curve to determine how efficiently the valve will regulate. Figure 1 shows typical flow curves for DirectoValve® regulating type valves. This will help to decide the type of valve to use.

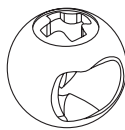
Regulating Valve Flow Curves



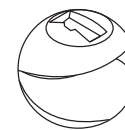
R Type Valve



Butterfly Valve



RL Valve



PR Valve

## R Type and Butterfly Valves

As shown on the graph, the butterfly valve has the most non-linear flow curve for final 1/3 (30°) of travel leading to an increase of 75% in flow through the valve. The straight 2-way "R" ball curve is not quite as steep, with the flow through the valve increasing by 60% over the last 30° of travel. The "R" ball, however, has the additional disadvantage of not allowing significant flow during the first 1/3 of its rotation. Since a small change of rotation causes a significant change using these valves, trying to regulate large flows when the valve is two thirds to full open presents a challenge.

## RL Valve

TeeJet Technologies has developed a special ball that allows the valve to start regulating earlier thus extending the regulating range. This special ball valve also increases flow and the linear characteristic of the valve during the first 3/4 of the valve cycle. The flow from the valve starts 10° earlier, than a regular R type ball and increases the flow of the RL ball during the first 70% of travel (Figure 1). The maximum capacity is about 10% less than an R type valve.

## PR Valve

The PR valve uses a 3-way valve body and a ball with a wedge removed. The combination of this ball and a motor that rotates past the standard 90° results in a valve with an almost linear flow curve. The 2PR version has one outlet plugged. The 3PR version allows bypass flow to return to the tank.

As noted in Figure 1, the percentage of flow increases by approximately the amount of ball travel thus avoiding the rapid change seen with standard ball valves and butterfly valves.

## Ball Type Regulating Valves

\* Not available in stainless steel.

MODEL NUMBER	MAXIMUM PRESSURE	FLOW RATE AT A 5 PSI (0.34 bar) PRESSURE DROP	FLOW RATE AT A 10 PSI (0.69 bar) PRESSURE DROP
344BR-2	300 PSI (20 bar)	32 GPM (121 l/min)	45 GPM (170 /min)
344BR-3	300 PSI (20 bar)	24 GPM (91 l/min)	34 GPM (129 l/min)
344BRL-2	300 PSI (20 bar)	27 GPM (102 l/min)	38 GPM (144 l/min)
* 344BPR-2	300 PSI (20 bar)	12 GPM (45 l/min)	17 GPM (64 l/min)
* 344BPR-3	300 PSI (20 bar)	12 GPM (45 l/min)	17 GPM (64 l/min)
346BR-2	150 PSI (10 bar)	100 GPM (379 l/min)	141 GPM (534 l/min)
346BR-3	150 PSI (10 bar)	64 GPM (242 l/min)	91 GPM (344 l/min)
* 346BPR-2	150 PSI (10 bar)	53 GPM (200 l/min)	75 GPM (284 l/min)
* 346BPR-3	150 PSI (10 bar)	53 GPM (200 l/min)	75 GPM (284 l/min)



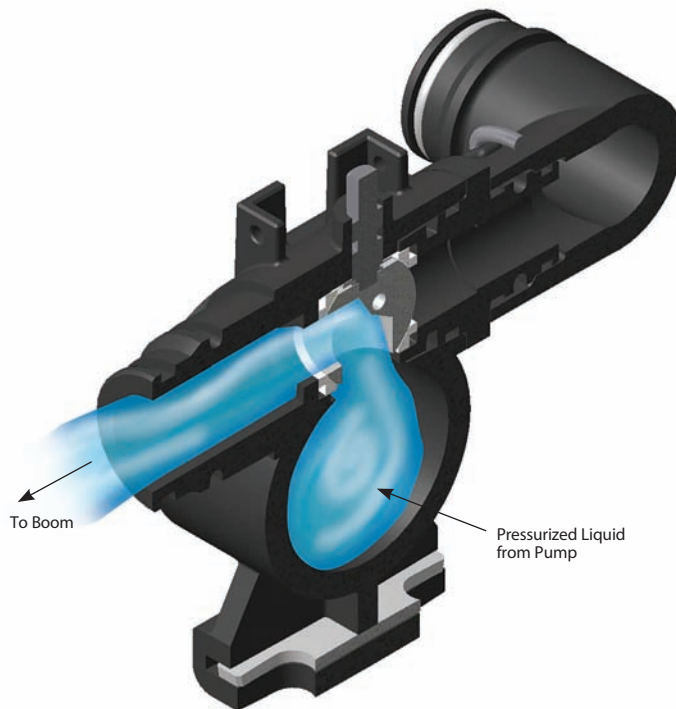
TeeJet Technologies' Flow Back valves utilize a patented design that can significantly improve the accuracy of spraying operations. Depending on sprayer configuration, standard shut off valves may allow a delay of five to ten seconds or more from the time the boom section is switched off to when the spray tips actually stop spraying. This delay can lead to over-application of spray product whenever boom sections are shut off or application to areas outside the target area. TeeJet Technologies' Flow Back feature allows for virtually instantaneous on/off spray tip control by rapidly releasing spray boom pressure. This is accomplished by diverting a small amount of liquid from the spray boom back to the spray tank. By providing precise boom shutoff and returning a small volume of liquid back to the tank, rather than mis-applying it, significant chemical savings can be achieved. Additionally, Flow Back valves are the perfect complement to automatic boom section control (ABSC) systems.

## Features:

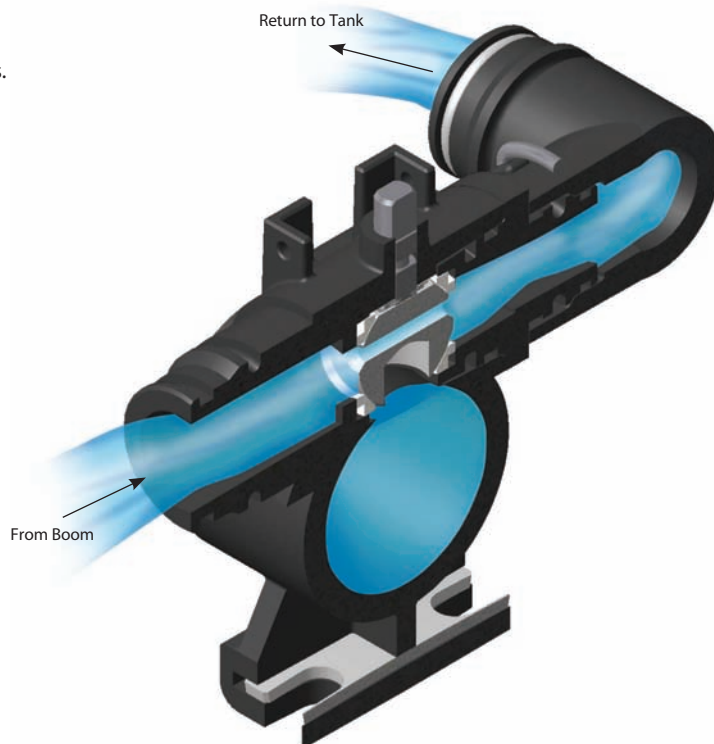
- Minimizes risk of over- or mis-application by relieving boom pressure and providing 80–95% faster tip shutoff, as compared to traditional shut off valves.
- Spray boom remains full of liquid allowing for spraying to resume instantly when valves are turned on.
- Reduces chemical expense by eliminating waste and protecting sensitive or non-target areas from overspray.
- Ideal companion for Automatic Boom Section Control (ABSC) systems, but suitable for use with any automatic or manual spray controller.
- Easy installation – requires only a single Flow Back return line to tank. No additional wiring or sensors required.
- Flow Back return line must have unrestricted flow to top of tank to ensure optimal sprayer performance. See page 157 for Flow Back plumbing diagram.
- Compatible with a wide variety of sprayer types, sizes and control systems.
- Flow Back configuration is available on 430, 450 and 460 manifolds. Select the best manifold based on maximum operating pressure, boom flow requirements, and mounting preferences.
- For further information please contact your local TeeJet Technologies distributor or sales representative.



## How Flow Back Valves Work



Flow Back Valve in Open Position



Flow Back Valve in Closed Position

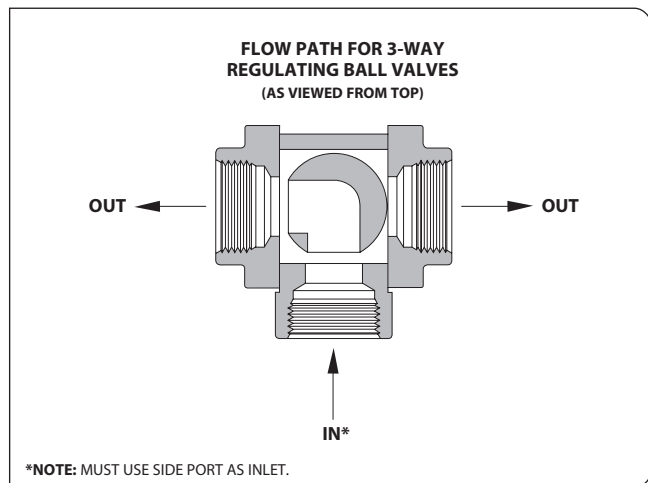


## 344B and 346B Pressure Regulating Ball Valves

The 340 series electrical regulating valves are designed to produce linear flow regulation and shutoff control in agricultural applications. Both models are available in several styles and motor speeds to accommodate different types of applications.

### Features:

- Available in 2-way and 3-way versions.
- Available in 1, 3, or 6 RPM motor speeds. Note: The PR versions cycle time is double that of an R or RL version.
- Two-wire lead provides easy installation with 12 VDC systems.
- Low power consumption, less than 1 amp.
- Offered in a variety of inlet/outlet connections. See pages 114–116 for additional information and options.
- Wetted parts are Nylon, polypropylene, stainless steel, Teflon®, and Viton®.
- See pages 78–79 for additional information on B style motors.



R & RL Series



344 BPR Series



346 R Series



346 BPR Series

## Butterfly Valve

### AA(B)244C-3/4 Remote Control Electric Regulating Butterfly Valve

The AA244C remote control electric regulation valve has been specifically designed to provide remote pressure control in agricultural applications using DirectoValve AA144A or AA145 solenoid shutoff valves.

### Features:

- Unrestricted flow when wide open – Flow Rate: 28 GPM (106 l/min) at 5 PSI (0.34 bar) drop, 40 GPM (151 l/min) at 10 PSI (0.69 bar) pressure drop.
- Bypass flow rate: 2 GPM (7.5 l/min) @ 10 PSI (0.7 bar).

- Operates in 12 VDC system and may be controlled by a double-pole double-throw spring-centered switch.
- Maximum operating pressure of 100 PSI (7 bar).
- Two-wire lead for use in 12 VDC system.
- 3/4" (F) NPT or BSPT connections.
- Easy installation (flows either direction).
- Good corrosion resistance.
- Low current draw (0.10 AMP).
- 20 second response time.



### How to order:

Specify model number.  
Example: AA(B)244C-3/4  
(B) = BSPT



Sample Valve Part Number:

(B)344BRL-2FS-01C15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

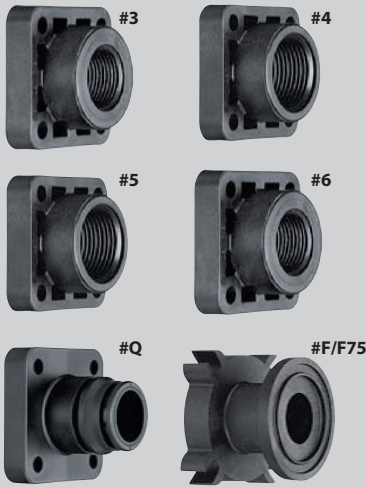
MODEL SPECIFICATIONS	
PART CODE	DESCRIPTION
344B/346B	REGULATING VALVE

MOTOR SPECIFICATIONS	
PART CODE	DESCRIPTION
R	REGULATING VALVE
RL	LINEAR REGULATING VALVE (344 SERIES ONLY)
*PR	PRESSURE REGULATING VALVE

\*Not available in stainless steel.

VALVE TYPES	
PART CODE	DESCRIPTION
2	2-WAY VALVE
3	3-WAY VALVE (PR & R ONLY)

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD (344 SERIES ONLY)
4	1" PIPE THREAD (344 SERIES ONLY)
5	1 1/4" PIPE THREAD (346 SERIES ONLY)
6	1 1/2" PIPE THREAD (346 SERIES ONLY)
Q	QUICK CONNECT (344 SERIES ONLY)
F	50 SERIES FLANGE
F75	75 SERIES FLANGE (346 SERIES ONLY)



**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- 3, 4, 5, 6:** When ordering 3/4" (3), 1" (4), 1 1/4" (5) or 1 1/2" (6) threaded NPT or BSPT inlet/outlet type valve connections, the inlets and outlets will be included during assembly.
- F:** When ordering F or F75 (flange) type valve connections, the inlet/outlet fittings are ordered separately. Clamps and flange fittings are required. See pages 114–115 for flange fitting options.
- Q:** When ordering QC (Quick Connect) hose barb type valve fittings, the inlet/outlet connections are ordered separately. Two 45529 QC fittings are required for 2-way valves and three each for 3-way valves. See page 116 for QC options.

**Note:** Many valve configurations are possible by mixing and matching flange fittings.

**WIRING CONNECTORS**

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	0.5-METER CABLE
* C03	0.3-METER CABLE
* C15	1.5-METER CABLE
* C60	6.0-METER CABLE
D	DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

MOTOR SPEEDS	
PART CODE	DESCRIPTION
01	1 RPM (18 SECOND CYCLE TIME) MOTOR
03	3 RPM (6 SECOND CYCLE TIME) MOTOR
06	6 RPM (3 SECOND CYCLE TIME) MOTOR

**Note:** PR series cycle times are doubled.

BALL MATERIAL SPECIFICATIONS	
PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL (R & RL SERIES ONLY)

REPAIR KITS	
AB344AE-KIT	AB346B-KIT

**Note:** AB344AE-KIT for 344A&B Valves



# DirectoValve® 344 Series Electric Shutoff Valves

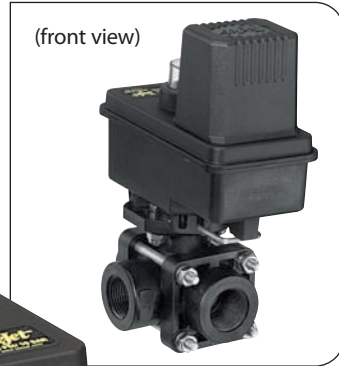
344B shutoff ball valves are available with E or EC series motors and with cable or DIN electrical connections. See pages 78–79 for more information on DirectoValve motors.

## Features:

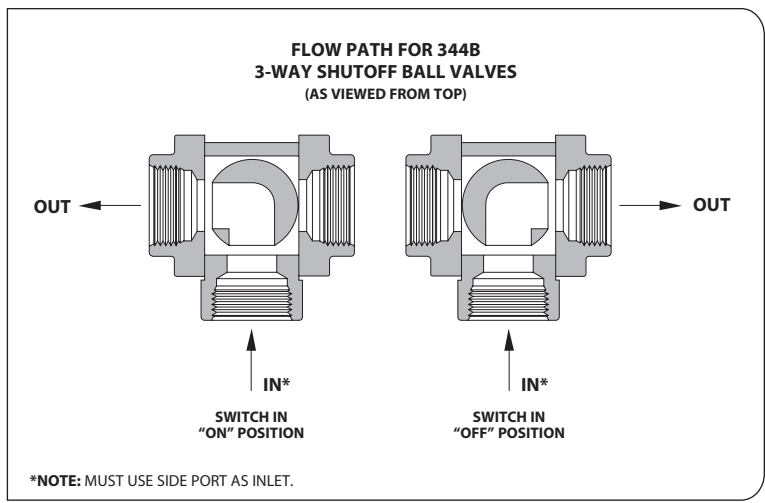
- 22 RPM, 0.7 second shutoff fully open to close.
- Flexible inlet/outlets provide quick simple plumbing for a single valve. See page 85 for more information.
- Available in 2-way or 3-way versions. 2-way valves allow complete shutoff while the 3-way valves divert flow to a bypass line when boom controls are shut off.
- Stainless steel stem with optional polypropylene or stainless steel ball.
- Maximum pressure rating is 300 PSI (20 bar).
- The flow rate for the 344BEC 2-way valve is 32 GPM (121 l/min) flow rate with a 5 PSI (0.34 bar) pressure drop, 45 GPM (170 l/min) at a 10 PSI (0.69 bar) pressure drop.
- The flow rate for the 344BEC 3-way valve is 24 GPM (91 l/min) with a 5 PSI (0.34 bar) pressure drop, 34 GPM (129 l/min) at a 10 PSI (0.69 bar) pressure drop.
- Wetted parts are Nylon, Teflon®, polypropylene, stainless steel and Viton®.



**344BEC-24-C**  
**2-Way Valve**  
(rear view)



**344BEC-33-C**  
**3-Way Valve**  
(rear view)





Sample Valve Part Number:

(B)344BEC-2FS-CN15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
344B	BALL VALVE

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPES	
PART CODE	DESCRIPTION
2	2-WAY VALVE
3	3-WAY VALVE

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE

WIRING CONNECTORS
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.
See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- 3, 4:** When ordering 3/4" (3) or 1" (4) threaded NPT or BSPT inlet/outlet type valve connections, the inlets and outlets will be completed during the ordering process.
- F:** When ordering F (flange) type valve connections, the inlet/outlet fittings are ordered separately. Two 50 series clamps and flange fittings are required for 2-way valves and three each for 3-way valves. See pages 114–115 for flange fitting options.
- Q:** When ordering QC (Quick Connect) hose barb type valve fittings, the inlet/outlet connections are ordered separately. Two 45529 QC fittings are required for 2-way valves and three each for 3-way valves. See page 116 for QC options.

**Note:** Many valve configurations are possible by mixing and matching flange fittings.

BALL MATERIAL SPECIFICATIONS	
PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL

REPAIR KIT
AB344AE-KIT for 344A&B Valves





# DirectoValve® 346 Series Shutoff Valves

346BEC shutoff ball valves are available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

### Features:

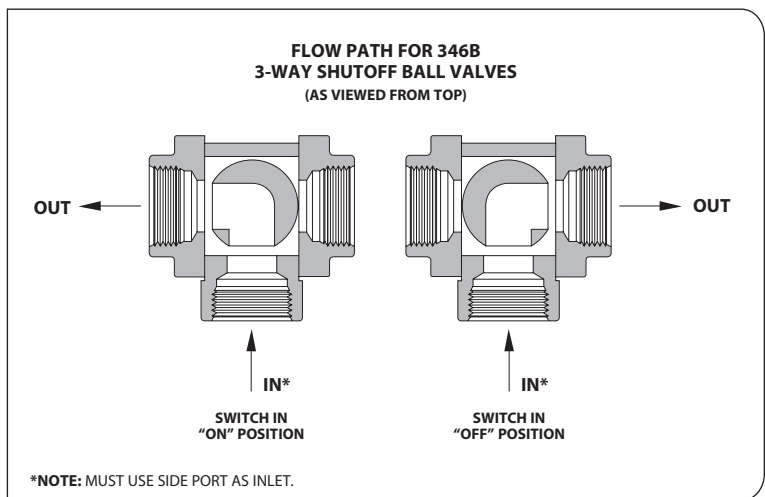
- 25 RPM, 0.6 second shutoff fully open to close.
- Available in 2-way or 3-way versions. 2-way valves allow complete shutoff while the 3-way valves divert flow to a bypass line when boom controls are shut off.
- The flow rate for the 346BEC 2-way valve is 100 GPM (379 l/min) with 5 PSI (0.34 bar) pressure drop, 141 GPM (534 l/min) with 10 PSI (0.69 bar) pressure drop.
- The flow rate for the 346BEC 3-way valve is 64 GPM (242 l/min) with a 5 PSI (0.34 bar) pressure drop, 91 GPM (344 l/min) with 10 PSI (0.69 bar) pressure drop.
- Polypropylene ball with stainless steel stem.
- Maximum pressure rating of 150 PSI (10 bar).
- Available with 1¼", 1½" NPT or BSPT (F) threads or 50 series flange fittings.
- Wetted parts made of corrosion-resistant materials, glass-reinforced polypropylene, Teflon®, stainless steel and Viton®.



**346BEC-25-C Valve**  
(rear view)



**346BEC-35-C Valve**  
(rear view)





Sample Valve Part Number:

(B)346BEC-25S-CN15AB

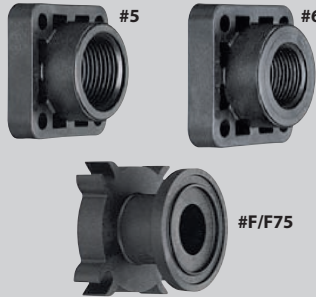
OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
346B	BALL VALVE

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	25 RPM, 0.6 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPES	
PART CODE	DESCRIPTION
2	2-WAY VALVE
3	3-WAY VALVE

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
5	1¼" PIPE THREAD
6	1½" PIPE THREAD
F	50 SERIES FLANGE
F75	75 SERIES FLANGE



WIRING CONNECTORS	
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.	
See page 117 for electrical connectors and codes.	

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **5, 6:** When ordering 1¼" (5) or 1½" (6) threaded NPT or BSPT inlet/outlet type valve connections, the valve will be completed during the ordering process.
- **F:** When ordering F or F75 (flange) type valve connections, the inlet/outlet fittings are ordered separately. Two clamps and flange fittings are required for 2-way valves and three each for 3-way valves. See pages 114–115 for flange fitting options.

**Note:** Many valve configurations are possible by mixing and matching flange fittings.

BALL MATERIAL SPECIFICATIONS	
PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL (2-WAY VALVE ONLY)

REPAIR KIT	
AB346B-KIT	



# DirectoValve® 356 Series Flanged Shutoff Valves

The 356BEC DirectoValve control valve delivers performance and dependability. The trunnion-style valve is a hard-working, commercial-duty control valve made to go the distance. It combines dozens of design features into a control valve that will respond quickly and last longer than other valves.

356BEC shutoff ball valves are available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

### Features:

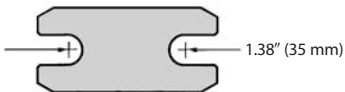
- 25 RPM, 0.6 second shutoff fully open to close.
- Flow rate is 100 GPM (379 l/min) with a 5 PSI (0.34 bar) pressure drop, 141 GPM (534 l/min) with a 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 150 PSI (10 bar).
- Wetted parts are polypropylene, stainless steel, carbon-filled Teflon®, Viton® and Ryton®.
- 50 series flange fittings reduce leaks and allow various inlet/outlet connections. See pages 114–115 for more information.



(front view)



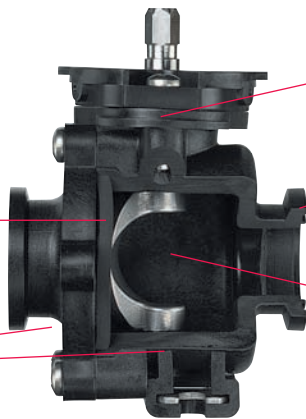
356BEC-C Valve  
(rear view)



Mounting foot pattern  
for 5/16" (8 mm) bolts.

Wear-resistant, carbon-filled Teflon seal improves durability and minimizes the potential for leakage.

Fasteners and mounting foot made of 303 stainless steel to prevent corrosion, provide strength and provide easy mounting. A 5/16" or 8 mm bolt can be used to mount the valve.



Bearings above and below the ball maintain precise position and assure long life.

TeeJet® 50 series flanged fittings at the inlet and outlet permit easy attachment of hoses or to a manifold. It's compatible with other flanged fittings on the market.

Uniquely shaped, 316 stainless steel ball, polished for longer life, is the heart of this valve. Material doesn't get trapped as easily because the valve is self-cleaning.



Sample Valve Part Number:

# 356BEC-CN15AB

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
356B	356 BALL VALVE

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	25 RPM, 0.6 SECOND SHUTOFF VALVE
EC	SPST	

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

**WIRING CONNECTORS**

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.



**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **F:** Two 50 series clamps and flange fittings are required. See pages 114–115 for flange fitting options.
- **Q:** QC (Quick Connect) hose barb type valve fittings are not normally used due to flow limitations. See page 116 for more information on QC fittings.

**Note:** Many valve configurations are possible by mixing and matching flange fittings.

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

**REPAIR KIT**

AB356-KIT



# DirectoValve® Normally-Open (Bypass) Valves

The 344BEC, 346BEC and 356BEC valves are available in a normally-open configuration. Unlike standard shutoff ball valves, which are normally closed, normally-open valves will be in the closed position when the signal line (white wire or DIN terminal 2) is energized (+12 VDC) and will be in the open position when the signal is de-energized.

## Features:

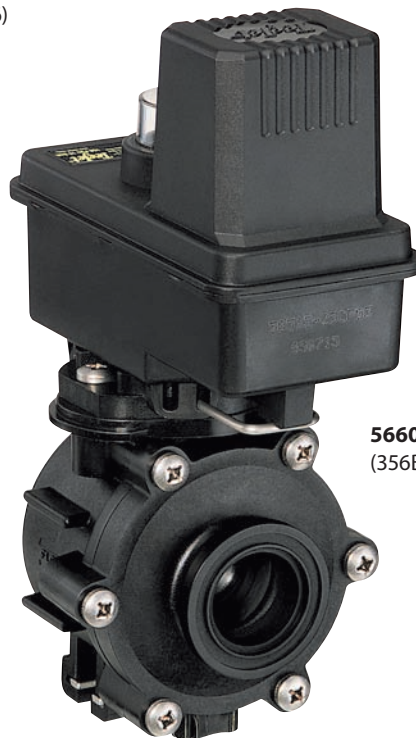
- Normally-open valves are wired in the identical manner to normally-closed, BEC style valves and operated by a single-pole single-throw (SPST) switch.
- Refer to the standard DirectoValve shutoff valve pages for typical features and specifications of a dump valve.



**56602-11**  
(346BEC, see page 86)



**56600-11**  
(344BEC, see page 84)



**56604-11**  
(356BEC, see page 88)



Sample Valve Part Number:

(B)56600-11-2FS-CN15AB

**OUTLET THREADS (FOR 344 & 346)**

PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

**MODEL SPECIFICATIONS (FOR 344, 346 & 356)**

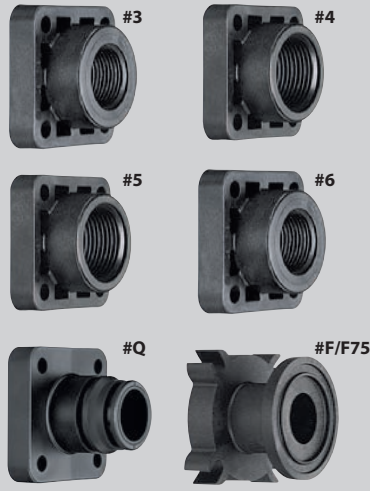
PART CODE	DESCRIPTION
56600	344BEC BALL VALVE
56602	346BEC BALL VALVE
56604	356BEC BALL VALVE

**VALVE TYPES (FOR 344 & 346)**

PART CODE	DESCRIPTION
2	2-WAY VALVE
3	3-WAY VALVE

**END CAPS OR OUTLET FITTINGS (FOR 344 & 346)**

PART CODE	DESCRIPTION
3	3/4" PIPE THREAD (344 ONLY)
4	1" PIPE THREAD (344 ONLY)
5	1 1/4" PIPE THREAD (346 ONLY)
6	1 1/2" PIPE THREAD (346 ONLY)
Q	QUICK CONNECT (344 ONLY)
F	50 SERIES FLANGE
F75	75 SERIES FLANGE (346 ONLY)



**WIRING CONNECTORS (FOR 344, 346 & 356)**

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.

**MOTOR CABLES (FOR 344, 346 & 356)**

PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4, 5, 6:** When ordering 3/4" (3), 1" (4), 1 1/4" (5) or 1 1/2" (6) threaded NPT or BSPT inlet/ outlet type valve connections, the inlets and outlets will be included during assembly.
- **F:** When ordering F or F75 (flange) type valve connections, the inlet/outlet fittings are ordered separately. Clamps and flange fittings are required. See pages 114-115 for flange fitting options.
- **Q:** When ordering QC (Quick Connect) hose barb type valve fittings, the inlet/outlet connections are ordered separately. Two 45529 QC fittings are required for 2-way valves and three each for 3-way valves. See page 116 for QC options.

**Note:** Many valve configurations are possible by mixing and matching flange fittings.

**BALL MATERIAL SPECIFICATIONS (FOR 344 & 346)**

PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL

**REPAIR KIT**

- AB344AE-KIT
- AB346B-KIT



# DirectoValve® 430 Series 2-Way Manifold

The 430 series 2-way shutoff manifold offers the proven reliability of a ball valve in a very compact design. The 430 provides simple, dependable on/off control and can be configured to suit the needs of a wide variety of sprayers.

## Features:

- ¼-turn ball valve design for positive shutoff.
- 0.6 second shutoff time fully open to fully closed.
- Less than 0.5 amp steady state current draw at 12 VDC.
- Motor assembly features built-in mini-DIN electrical connector and is IP67 rated.
- Motor available in EC (single pole, single throw) or E (double pole, double throw) configurations for use with a variety of controls.
- All metal gear train with stainless steel ball and stem provide excellent wear life.
- Large Quick Connect inlet can be configured in a variety of ways—see page 116 for options.
- Quick Connect outlet fitting for rapid attachment and removal of boom lines—see page 116 for options.
- Maximum pressure rating of 215 PSI (15 bar).
- The flow rate is 11.7 GPM (44 l/min) at a 5 PSI (0.34bar) pressure drop, 16.5 GPM (63 l/min) at a 10 PSI (0.69 bar) drop.
- Wetted parts are polypropylene, stainless steel, Viton® and PTFE.
- Integral mounting brackets allow for easy installation.
- Also available in 3-way and Flow Back versions.



430 2-Way Single Valve



435 2-Way Manifold

# DirectoValve® 430 Series 3-Way Manifold



The 430 series 3-way shutoff manifold features a 3-way, metered bypass ball valve design. The 3-way configuration, commonly used with positive displacement pumps, allows a constant system pressure to be maintained regardless of the valve being in the on or off position.

## Features:

- ¼-turn ball valve design for positive shutoff.
- 0.6 second shutoff time fully open to fully closed.
- User configurable bypass settings with markings on dial for quick and easy adjustment.
- Less than 0.5 amp steady state current draw at 12 VDC.
- Motor assembly features built-in mini-DIN electrical connector and is IP67 rated.
- Motor available in EC (single pole, single throw) or E (double pole, double throw) configurations for use with a variety of controls.
- All metal gear train with stainless steel ball and stem provide excellent wear life.
- Large Quick Connect inlet can be configured in a variety of ways—see page 116 for options.
- Quick Connect fittings used on outlets and 3-way return line allow for rapid attachment and removal of boom lines—see page 116 for options.
- Maximum pressure rating of 215 PSI (15 bar).
- The flow rate is 11.7 GPM (44 l/min) at a 5 PSI (0.34bar) pressure drop, 16.5 GPM (63 l/min) at a 10 PSI (0.69 bar) drop.
- Wetted parts are polypropylene, stainless steel, Viton® and PTFE.
- Integral mounting brackets allow for easy installation.
- Also available in 2-way and Flow Back versions.



430 3-Way Single Valve



435 3-Way Manifold





# DirectoValve® 430 Series Flow Back Manifold

The 430 series Flow Back manifold utilizes a unique ball design that relieves trapped pressure in the boom. This provides instant shutoff at nozzles and eliminates application problems resulting from nozzles continuing to spray after the boom section has been switched off. Flow back technology is the perfect complement to automatic boom section control and growers can often realize significant chemical savings.

## Features:

- ¼-turn ball valve design for positive shutoff.
- 0.6 second shutoff time fully open to fully closed.
- Liquid from flow back line must be returned, unrestricted, to top of tank.
- Less than 0.5 amp steady state current draw at 12 VDC.
- Motor assembly features built-in mini-DIN electrical connector and is IP67 rated.
- Motor available in EC (single pole, single throw) or E (double pole, double throw) configurations for use with a variety of controls.
- All metal gear train with stainless steel ball and stem provide excellent wear life.
- Large Quick Connect inlet can be configured in a variety of ways—see page 116 for options.
- Quick Connect fittings used on outlet and flow back port for rapid attachment and removal of boom lines—see page 116 for options.
- Maximum pressure rating of 215 PSI (15 bar).
- The flow rate is 9.2 GPM (35 l/min) at a 5 PSI (0.34 bar) pressure drop, 13.7 GPM (53 l/min) at a 10 PSI (0.69 bar) pressure drop.
- Wetted parts are polypropylene, stainless steel, Viton® and PTFE.
- Integral mounting brackets allow for easy installation
- Also available in 2-way and 3-way versions.



430 Flow Back Single Valve

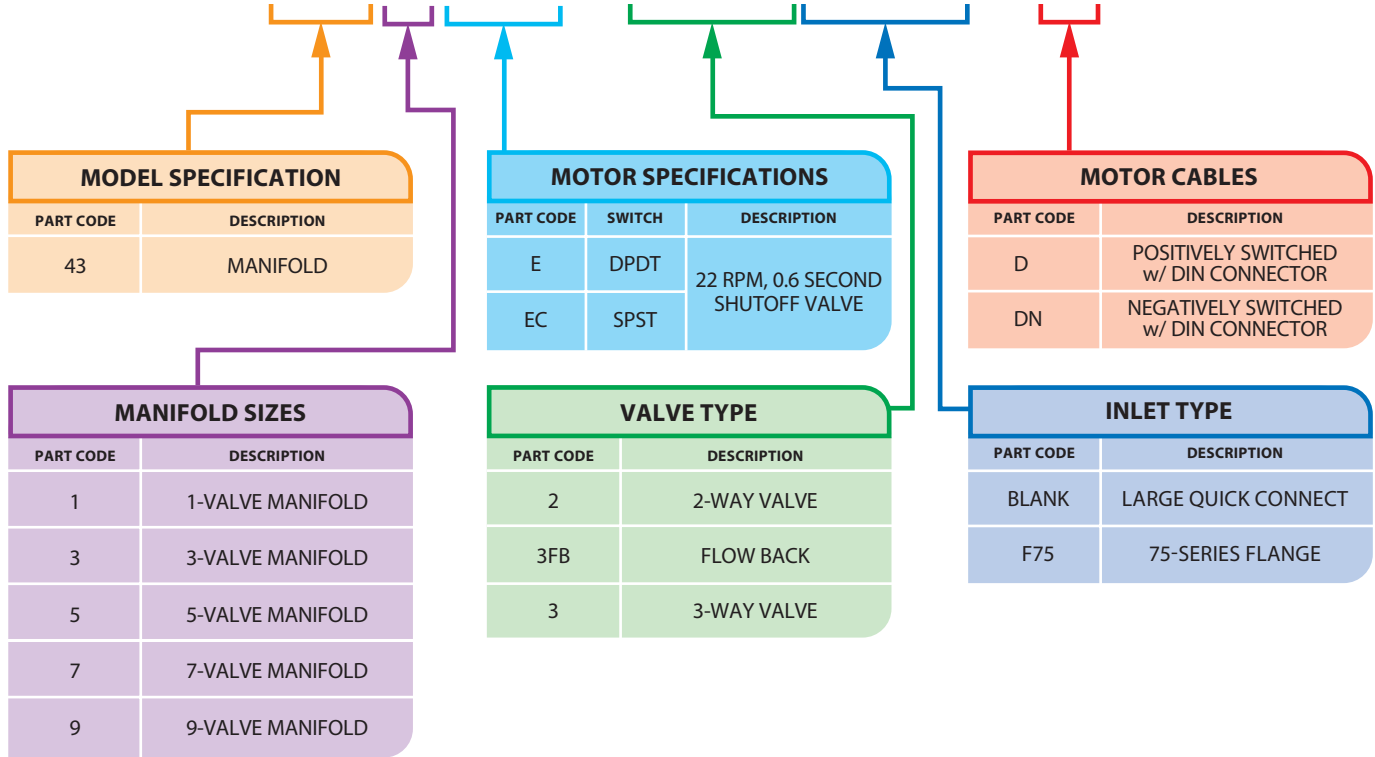


435 Flow Back Manifold



Sample Valve Part Number:

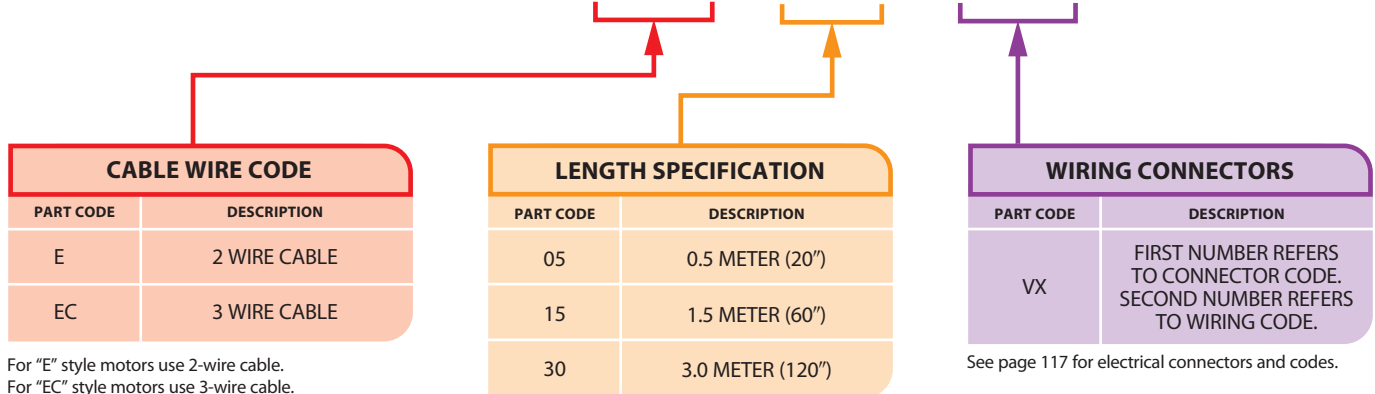
# 437EC-3FBF75-D



Other manifold sizes are available.

Mini-DIN Cable Assembly Part Code Example:

# 58480EC-15-VX

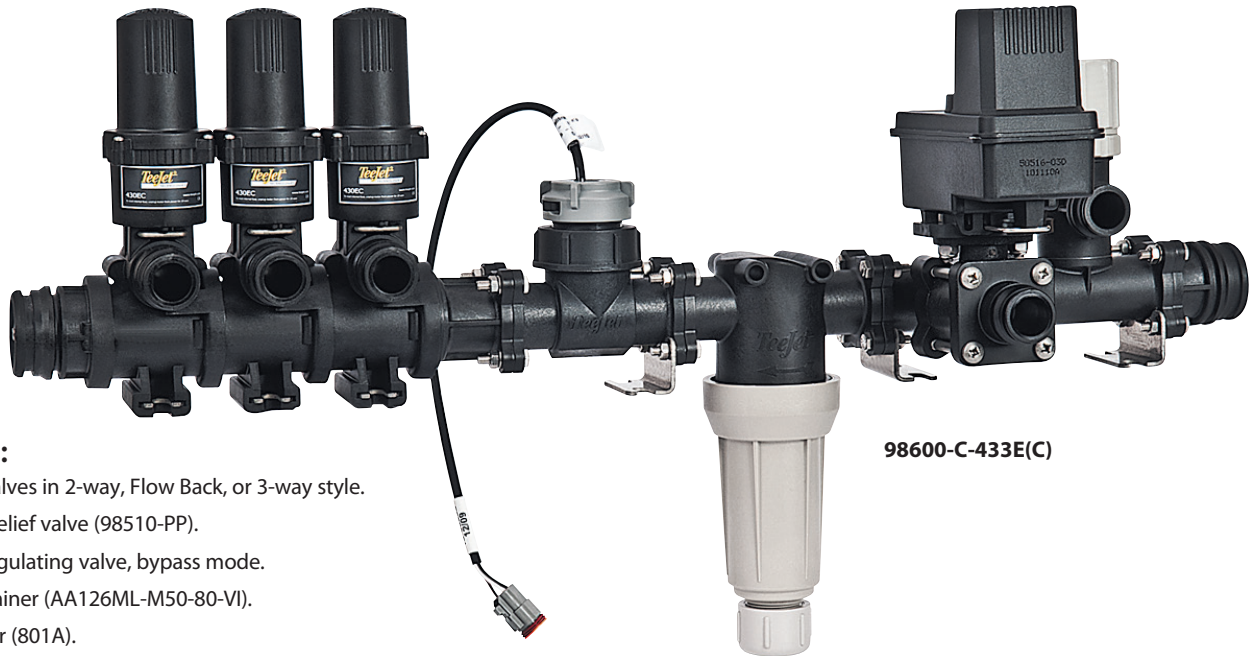


For "E" style motors use 2-wire cable.  
For "EC" style motors use 3-wire cable.

See page 117 for electrical connectors and codes.



# DirectoValve® Control Unit for TeeJet Controllers



### Includes:

- Section valves in 2-way, Flow Back, or 3-way style.
- Pressure relief valve (98510-PP).
- Electric regulating valve, bypass mode.
- Liquid strainer (AA126ML-M50-80-VI).
- Flowmeter (801A).

98600-C-433E(C)

MODEL NUMBER	VALVE SECTIONS	VALVE TYPE	PRESSURE	FLOW PER SECTION
98600-C-433E(C)-2	3	2-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)
98601-C-435E(C)-3FB	5	Flow Back	215 PSI (15 bar)	9.2 GPM (5 PSI Pressure Drop) 35 l/min (0.34 bar Pressure Drop)
98602-C-434E(C)-3	4	3-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)

**Note:** Valves can be ordered in 1-9 sections configuration. For inlet and outlet connections refer to page 116.



### Includes:

- Section valves in 2-way, Flow Back, or 3-way style.
- Pressure relief valve (98510-PP).
- Electric regulating valve, bypass mode.
- Liquid strainer (AA126ML-M50-80-VI).

98601-B-433E(C)

MODEL NUMBER	VALVE SECTIONS	VALVE TYPE	PRESSURE	FLOW PER SECTION
98600-B-433E(C)-1	3	2-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)
98601-B-434E(C)-3FB	4	Flow Back	215 PSI (15 bar)	9.2 GPM (5 PSI Pressure Drop) 35 l/min (0.34 bar Pressure Drop)
98602-B-435E(C)-3	5	3-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)

**Note:** Valves can be ordered in 1-9 sections configuration. For inlet and outlet connections refer to page 116.



## Includes:

- Section valves in 2-way, Flow Back, or 3-way style.
- Pressure relief valve (98510-PP).

MODEL NUMBER	VALVE SECTIONS	VALVE TYPE	PRESSURE	FLOW PER SECTION
98600-A-437E(C)-2	7	2-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)
98601-A-435E(C)-3FB	5	Flow Back	215 PSI (15 bar)	9.2 GPM (5 PSI Pressure Drop) 35 l/min (0.34 bar Pressure Drop)
98602-A-433E(C)-3	3	3-Way	215 PSI (15 bar)	11.7 GPM (5 PSI Pressure Drop) 44 l/min (0.34 bar Pressure Drop)

**Note:** Valves can be ordered in 1–9 sections configuration. For inlet and outlet connections refer to page 116.

## Individual 430 Manifold Accessories



**344BRL-TH Throttling Regulating Valve**



**98510 Pressure Relief Valve**



**801A Flow Meter**



**344BRL-B Bypass Regulating Valve**



**AA126ML-M50 Line Strainer**



**AA122ML-QC Outlet Strainer**

**Not shown:** 346BE(C)-2M 2-Way Master Shutoff Valve  
AB98499-KIT 4-Bolt Flange Accessory Mounting Kit



# DirectoValve® 440 Series Manifold Shutoff Valves

The TeeJet® 440BEC series DirectoValve manifold provides a convenient, compact solution for the installation of multiple 344BEC electric ball valves. This system eliminates the need for custom fabrication of pipe or hose manifolds, drastically reducing both installation time and the chance for fluid leaks.

440BEC shutoff ball valves are available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

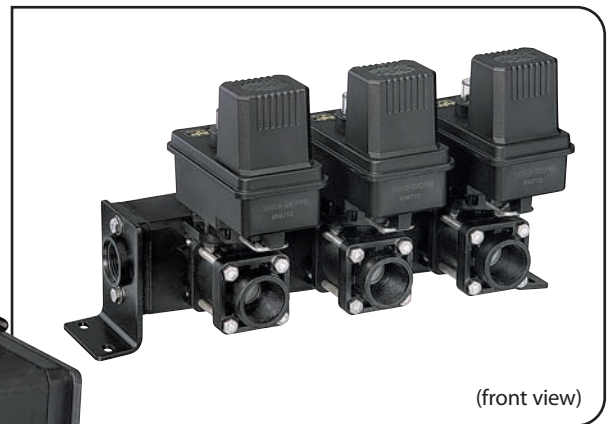
- Based on proven design of 344 ball valves.  
22 RPM, 0.7 second shutoff fully open to close.
- Quick, simple plumbing of up to five electric ball valves.
- Flexible inlet and outlet connection options.
- Easy mounting with built-in brackets.
- Maximum pressure rating of 300 PSI (20 bar).
- Flow rate 26 GPM (98 l/min) with 5 PSI (0.34 bar) pressure drop, 37 GPM (140 l/min) with 10 PSI (0.69 bar) pressure drop (flow rate may vary based on number of valves and inlet size).
- Incorporates an internal resettable fuse.
- 12 VDC operation.
- Stainless steel stem with optional polypropylene or stainless steel ball.



**441BEC-4T4T-C Valve**  
(rear view)



**443BEC-4T4T-C Valve**  
(rear view)



(front view)



Sample Valve Part Number:

(B)443BEC-4S4H4T-CN15AB

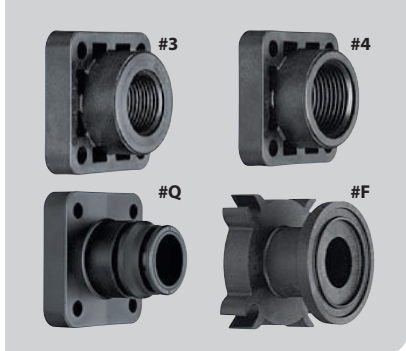


OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

440 MANIFOLD SIZES	
PART CODE	DESCRIPTION
0	SINGLE REPLACEMENT VALVE
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

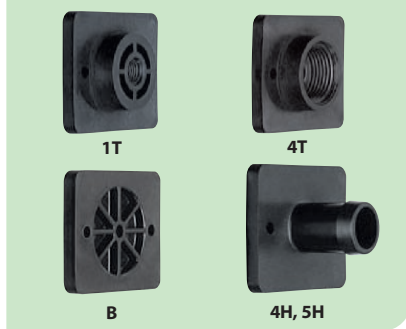
END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



BALL MATERIAL SPECIFICATIONS	
PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL

LEFT/RIGHT SIDE INLET FITTINGS	
PART CODE	DESCRIPTION
4T	1" PIPE THREAD
4H	1" HOSE BARB
5H	1 1/4" HOSE BARB
B	INLET BLANK
1T	1/4" THREAD GAUGE PORT

Note: Right and left sides are as seen with outlets facing towards you (front view).



**WIRING CONNECTORS**

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

Note: DIN cables must be ordered separately. See page 78 for DIN cables.

**REPAIR KIT**

AB344AE-KIT

**INLET/OUTLET REQUIRED CONNECTIONS**

- **3, 4:** When ordering a standard 440 series manifold, inlets/outlets will be completed in the ordering process. No additional valve connections are required.
- **F:** When ordering F (flange) type valve outlet connections, only the outlets will be 50 series flange fittings and are ordered separately. One 50 series clamp and flange fitting is required for each valve in the manifold. See pages 114–115 for flange fitting options. The inlets will be standard 440 connections as described in the ordering process.
- **Q:** When ordering QC (Quick Connect) type valve outlet fittings, only the outlets will be QC fittings and are ordered separately. One 45229 QC hose barb connection is required for each valve in the manifold. See page 116 for QC hose barb options. The inlets will be standard 440 connections as described in the ordering process.

Note: Other valve configurations are possible by mixing and matching flange fittings.



# DirectoValve® 450 Series Shutoff Manifold

450BEC manifolds are available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

- 22 RPM, 0.7 second shutoff fully open to close.
- Available in 2-way and Flow Back versions. Pressure regulating valves can be incorporated.
- Flexible inlet/outlet connections allow for quick, simple plumbing for as many valves as needed for your sprayer.
- Stainless steel stem with optional polypropylene or stainless steel ball.
- Maximum pressure rating of 200 PSI (14 bar).
- The flow rate for the 450BEC 2-way valve is 32 GPM (121 l/min) with 5 PSI (0.34 bar) pressure drop, 45 GPM (170 l/min) with 10 PSI (0.69 bar) pressure drop.
- Wetted parts are Nylon, Teflon®, polypropylene and Viton®.



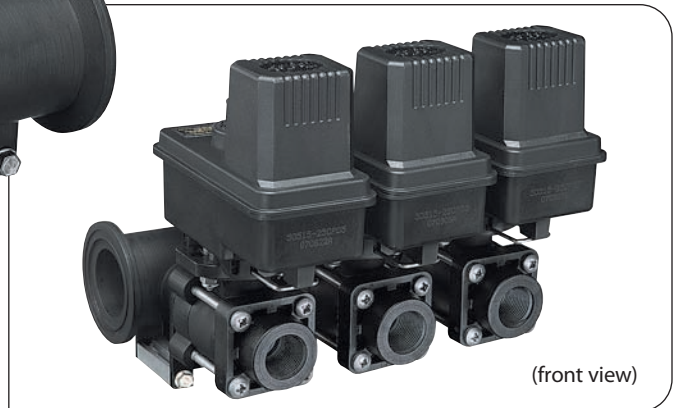
**451BEC-2F-C Valve**  
(rear view)



(front view)



**453BEC-24-C Manifold**  
(rear view)



(front view)



### Sample Valve Part Number:

# (B)453BEC-2FS-CN15AB

#### OUTLET THREADS

PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

#### MODEL SPECIFICATION

PART CODE	DESCRIPTION
45	450 MANIFOLD

#### MANIFOLD SIZES

PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

#### MOTOR SPECIFICATIONS

PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

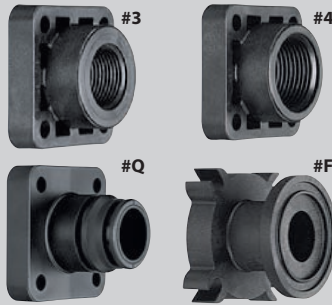
#### VALVE TYPE

PART CODE	DESCRIPTION
2	2-WAY VALVE
2N	2-WAY VALVE, NARROW

**Note:** 3-way valve type not available on 450 manifold.

#### END CAPS OR OUTLET FITTINGS

PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



#### WIRING CONNECTORS

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.

#### MOTOR CABLES

PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

#### INLET/OUTLET REQUIRED CONNECTIONS

THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4:** When ordering 3/4" (3) or 1" (4) NPT or BSPT threaded connections, the valve outlet connection will be completed during the ordering process. For the inlets, the 75 series flange fittings are ordered separately. Two 75 series clamps and fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **F:** When ordering F (flange) type valve connections, the inlet/outlet fittings are ordered separately. For the outlet, one 50 series clamp and flange fitting is required per valve. For the inlets, two 75 series clamps and flange fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **Q:** When ordering QC (Quick Connect) type valve outlet fittings, only the outlets will be QC fittings and are ordered separately. One 45229 QC hose barb connection is required for each valve in the manifold. See page 116 for QC hose barb options. The inlets will be standard 440 connections as described in the ordering process.

**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

#### BALL MATERIAL SPECIFICATIONS

PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL

#### REPAIR KIT

AB344AE-KIT





# DirectoValve® 450 Series Flow Back Manifold

The 450FB Flow Back valves allow pressure from the boom lines to be relieved back to the tank when the valve is switched to the off position.

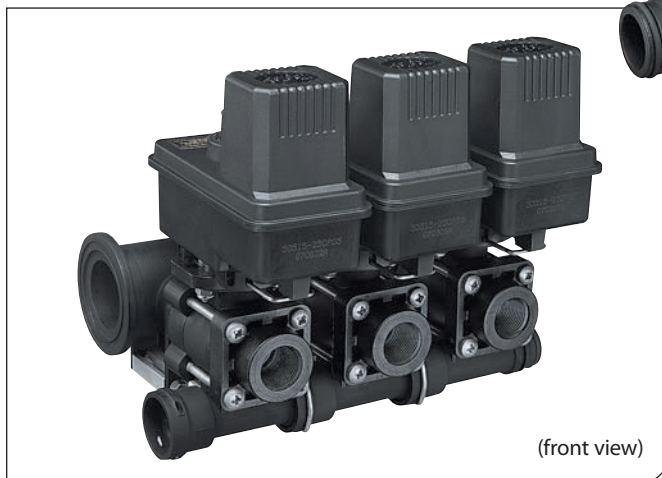
Available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

- 22 RPM, 0.7 second shutoff fully open to close.
- With a choice of threaded, QC (Quick Connect) hose barbs or 50 series flange fitting outlet connections, the 450FB manifolds allow quick, simple plumbing for as many valves as needed for your sprayer.
- Choice of polypropylene or stainless steel ball with stainless steel stem.
- Flow rate is 32 GPM (120 l/min) with 5 PSI (0.34 bar) pressure drop per valve, 45 GPM (170 l/min) with 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 200 PSI (14 bar).
- The 450 valve series is also available in 2-way versions, see page 100 for further information.



**453BEC-3FB4-C  
Manifold**  
(rear view)



(front view)



**Sample Valve Part Number:**

(B)453BEC-3FBFS-CN15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

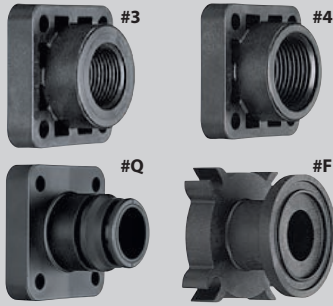
MODEL SPECIFICATION	
PART CODE	DESCRIPTION
45	450 MANIFOLD

MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPE	
PART CODE	DESCRIPTION
3FB	FLOW BACK

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



WIRING CONNECTORS
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.
See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4:** When ordering 3/4" (3) or 1" (4) NPT or BSPT threaded connections, the valve outlet connection will be completed during the ordering process.
    - For the inlets, two 75 series flange fittings and two 75 series clamps are required. For the Flow Back ports, two 45529 Quick Connect fittings are required.\*
  - **F:** For the flange fitting versions, one 50 series single clamp and 50 series flange fitting is required per valve outlet.
    - For the inlets, two 75 series flange fittings and two 75 series clamps are required. For the Flow Back ports, two 45529 Quick Connect fittings are required.\*
  - **Q:** For Quick Connect versions, one 45529 QC hose barb fitting is required per valve outlet.
    - For the inlets, two 75 series flange fittings and two 75 series clamps are required. For the Flow Back ports, two 45529 Quick Connect fittings are required.\*
- \*See pages 114-116 for flange and Quick Connect fitting options.  
**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

BALL MATERIAL SPECIFICATIONS	
PART CODE	DESCRIPTION
BLANK	POLYPROPYLENE BALL
S	STAINLESS STEEL BALL

REPAIR KIT
AB344AE-KIT



# DirectoValve® 460 Series 2-Way Manifold

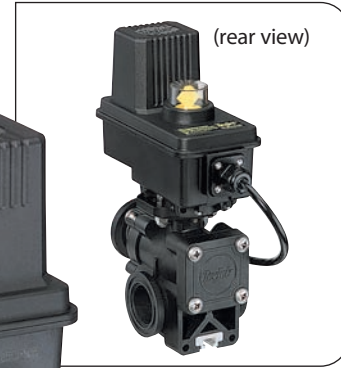
The 460BEC ball valve manifold utilizes a compact design that provides reliable performance at a wide range of operating pressures. Available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

- 22 RPM, 0.7 second shutoff fully open to close.
- With a choice of threaded, QC (Quick Connect) hose barbs or 50 series flange fitting outlet connections, the 460BEC manifold allows quick, simple plumbing for as many valves as needed for your sprayer.
- Stainless steel stem and ball.
- Flow rate: 25 GPM (94 l/min) at 5 PSI (0.34 bar) pressure drop, 35 GPM (132 l/min) at 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 300 PSI (20 bar).
- The 460BEC valve series is also available in 3-way and Flow Back versions. See page 106 for 460B 3C and 3E, 3-way versions and page 108 for 460FB Flow Back version.



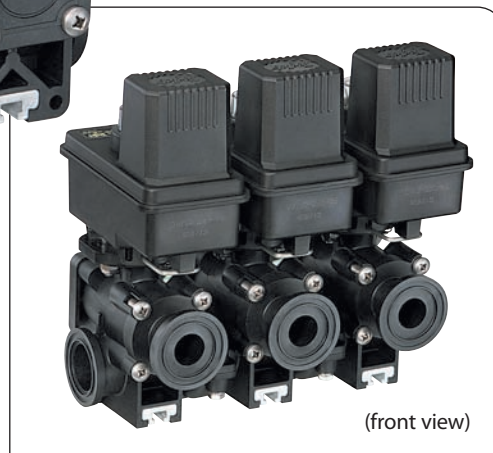
**461BEC-2F-C Valve**  
(front view)



(rear view)



**463BEC-2F-C Manifold**  
(rear view)



(front view)



### Sample Valve Part Number:

# (B)463BEC-2F-CN15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
46	460 MANIFOLD

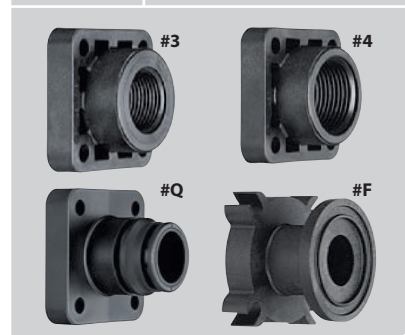
MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPE	
PART CODE	DESCRIPTION
2	2-WAY VALVE

See page 107 for 3-way valve.

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



WIRING CONNECTORS	
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.	
See page 117 for electrical connectors and codes.	

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

### INLET/OUTLET REQUIRED CONNECTIONS THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4:** When ordering 3/4" (3) or 1" (4) NPT or BSPT threaded connections, the valve outlet connection will be completed during the ordering process. For the inlets to be threaded, the 50 series flange fittings are ordered separately. Two 50 series single clamps and fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **F:** For the flange fitting versions, one 50 series single clamp and flange fitting is required per valve. For the inlets, two 50 series single clamps and flange fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **Q:** When ordering QC (Quick Connect) hose barb type valve fittings. For the outlet, one 45529 QC hose barb connection is required per valve. 460 inlets are 50 series standard flanges. Any two 50 series fittings and clamps may be ordered. For the inlets to be QC, requires two each, CP46029-PP QC flange adapters, 50 series single clamps and 45529 QC hose barb connections per manifold assembly. See page 116 for QC fitting options.

**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

REPAIR KIT
AB460-KIT



# DirectoValve® 460 Series 3-Way Manifold

The 460BEC 3-way ball valve manifold features an adjustable bypass setting that maintains a constant system pressure regardless of the valve being in the ON or OFF position. This is particularly effective on sprayers equipped with positive displacement pumps. Available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

- 22 RPM, 0.7 second shutoff fully open to close.
- Version C has VisiFlo® color-coded settings that can be used to match multiple tips.
- Version E has a single adjustment.
- With a choice of threaded, QC (Quick Connect) hose barbs or 50 series flange fitting outlet connections, the 460BEC manifold allows quick, simple plumbing for as many valves as needed for your sprayer.
- Stainless steel stem and ball.
- Flow rate: 25 GPM (94 l/min) at 5 PSI (0.34 bar) pressure drop, 35 GPM (132 l/min) at 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 300 PSI (20 bar).
- The 460BEC valve series is also available in 2-way and Flow Back versions. See page 104 for 460BEC 2-way version and page 108 for 460FB Flow Back version.

**461BEC-3EF-C Valve**  
(rear view)



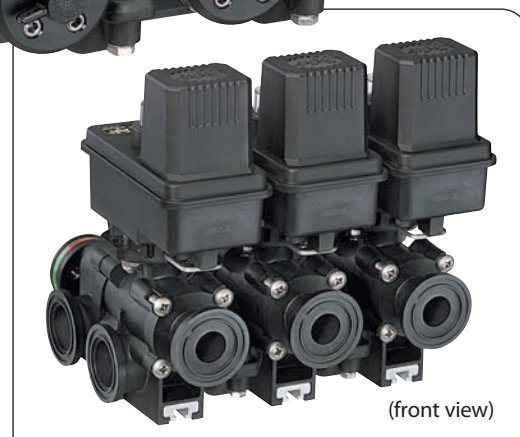
**461BEC-3CF-C Valve**  
(rear view)



**463BEC-3CF-C Manifold**  
(rear view)



**463BEC-3EF-C Manifold**  
(rear view)



(front view)



### Sample Valve Part Number:

# (B)463BEC-3CF-CN15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
46	460 MANIFOLD

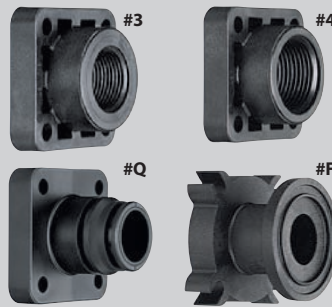
MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPE	
PART CODE	DESCRIPTION
3C	3-WAY VALVE
3E	

See page 105 for 2-way valve.

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



WIRING CONNECTORS
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.
See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

### INLET/OUTLET REQUIRED CONNECTIONS THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **3, 4:** When ordering 3/4" (3) or 1" (4) NPT or BSPT threaded connections, the valve outlet connection will be completed during the ordering process. For the inlets to be threaded, the 50 series flange fittings are ordered separately. Two 50 series double clamps and four flange fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **F:** For the flange fitting versions, one 50 series single clamp and flange fitting is required per valve. For the inlets, two 50 series double clamps and four flange fittings are required per manifold assembly. See pages 114–115 for flange fitting options.
- **Q:** When ordering QC (Quick Connect) hose barb type valve fittings. For the outlet, one 45529 QC hose barb connection is required per valve. 460 inlets are 50 series standard flanges. Any four 50 series fittings and two double clamps may be ordered. For the inlets to be QC, requires four each, CP46029-PP QC flange adapters, 45529 QC hose barb connections and two 50 series clamps per manifold assembly. See pages 114–116 for QC and flange options.

**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

REPAIR KIT
AB460-KIT



# DirectoValve® 460 Series Flow Back Manifold

The 460FB Flow Back valves allow pressure from the boom lines to be relieved back to the tank when the valve is switched to the off position.

Available with E or EC series motors with cable or DIN electrical connections. See page 78 for more information on DirectoValve motors.

## Features:

- 22 RPM, 0.7 second shutoff fully open to close.
- With a choice of threaded, QC (Quick Connect) hose barbs or 50 series flange fitting outlet connections, the 460FB manifolds allow quick, simple plumbing for as many valves as needed for your sprayer.
- Stainless steel stem and ball.
- Flow rate is 24 GPM (91 l/min) with 5 PSI (0.34 bar) pressure drop, 34 GPM (129 l/min) with 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 115 PSI (8 bar).
- The 460FB valve series are also available in 2-way and 3-way versions, see pages 104 and 106.



**461BEC-3FB4-C Valve**  
(rear view)



(front view)





### Sample Valve Part Number:

(B) 463BEC-3FBF-CN15AB

OUTLET THREADS	
PART CODE	DESCRIPTION
BLANK	ALL THREADS TO BE NPT (IF EQUIPPED)
(B)	ALL THREADS TO BE BSPT (IF EQUIPPED)

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
46	460 MANIFOLD

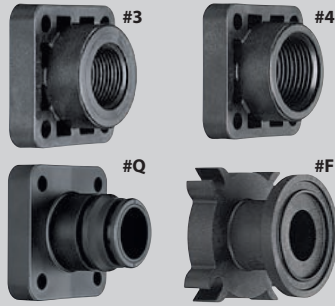
MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	22 RPM, 0.7 SECOND SHUTOFF VALVE
EC	SPST	

VALVE TYPE	
PART CODE	DESCRIPTION
3FB	FLOW BACK

See page 107 for 3-way valve.

END CAPS OR OUTLET FITTINGS	
PART CODE	DESCRIPTION
3	3/4" PIPE THREAD
4	1" PIPE THREAD
Q	QUICK CONNECT
F	50 SERIES FLANGE



WIRING CONNECTORS
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.
See page 117 for electrical connectors and codes.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.

**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

### INLET/OUTLET REQUIRED CONNECTIONS

THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- #3, #4:** When ordering 3/4" (3) or 1" (4) NPT or BSPT threaded connections, the valve outlet connection will be completed during the ordering process.
  - For inlets and Flow Back ports, four 50 series flange fittings and two 50 series double clamps are required per manifold.\*
- #F:** For the flange fitting versions, one 50 series single clamp and 50 series flange fitting is required per valve outlet.
  - For inlets and Flow Back ports, four 50 series flange fittings and two 50 series double clamps are required per manifold.\*
- #Q:** For Quick Connect versions, one 45529 QC hose barb fitting is required per valve outlet.
  - For inlets and Flow Back ports, four 50 series flange fittings and two 50 series double clamps are required per manifold.\*

\*See pages 114-116 for flange and Quick Connect fitting options.  
**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

REPAIR KIT
AB460-KIT





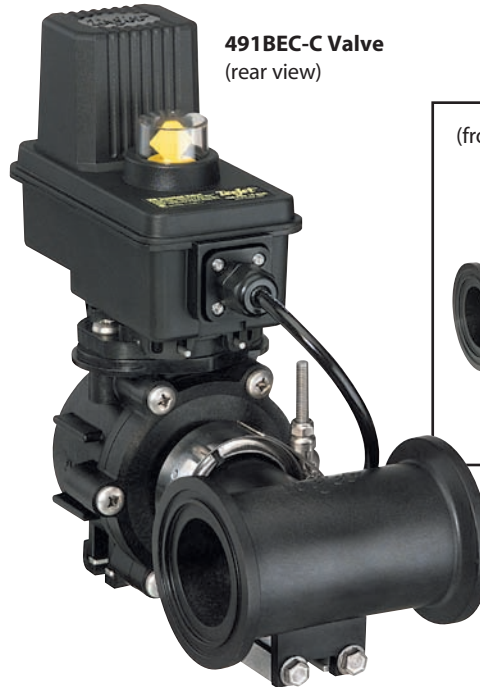
# DirectoValve® 490 Series Shutoff Manifold

The 490BEC DirectoValve control valve delivers performance and dependability. The trunnion-style valve is a hard-working, commercial-duty control valve made to go the distance. It combines dozens of design features into a valve that will respond quickly and last longer than other valves.

Available with E or EC series motors with cable or DIN electrical connections.

## Features:

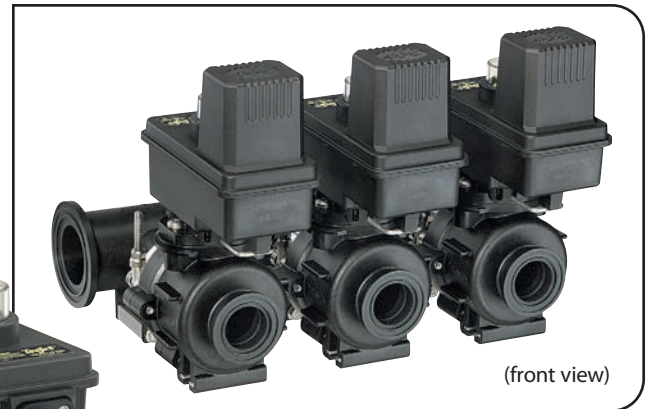
- 25 RPM, 0.6 second shutoff fully open to close. See page 78 for more information about DirectoValve motors.
- Flexible 50 series flange fitting inlet/outlet connections allow quick, simple plumbing for as many valves as needed for your sprayer.
- Available in 2-way version only. Pressure regulating valves can be incorporated.
- A uniquely designed 316 stainless steel ball reduces the amount of material that can be trapped in the valve. This reduces the likelihood of ball corrosion, reduces seal wear and increases the overall life of the valve.
- Flow rate: 100 GPM (379 l/min) at 5 PSI (0.34 bar) pressure drop, 141 GPM (534 l/min) at 10 PSI (0.69 bar) pressure drop.
- Maximum pressure rating of 150 PSI (10 bar).
- Wetted parts are polypropylene, stainless steel, carbon-filled Teflon®, Viton® and Ryton®.
- Wear-resistant carbon-filled Teflon seals improve durability and minimize the potential for leaks.
- Fasteners and mounting foot made of stainless steel to prevent corrosion, provide strength and provide easy mounting using a  $\frac{3}{16}$ " or 8 mm bolt.



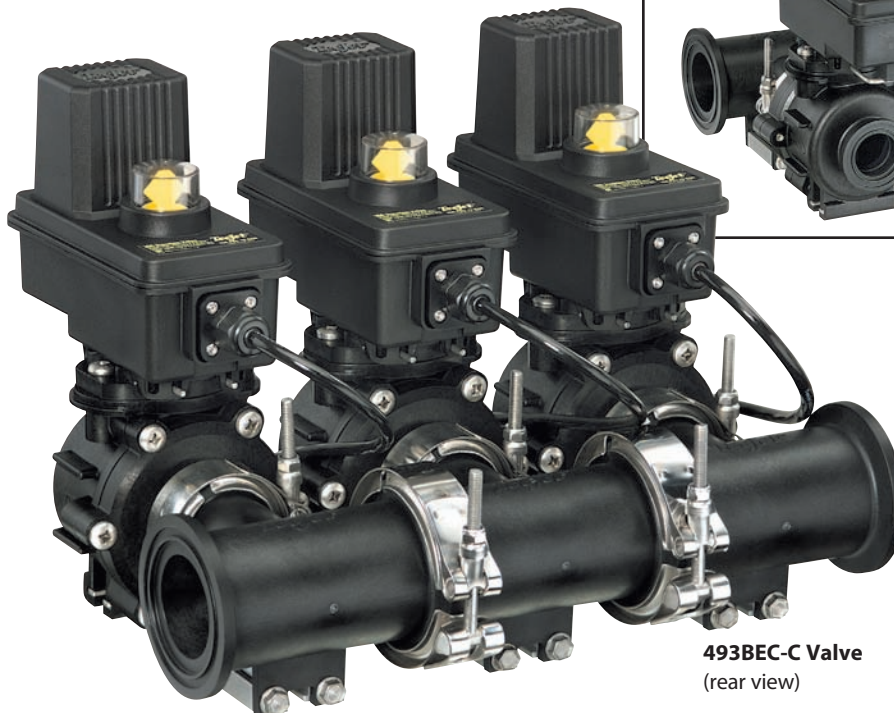
491BEC-C Valve  
(rear view)



(front view)



(front view)



493BEC-C Valve  
(rear view)



**Sample Valve Part Number:**

493BEC-CN15AB

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
49	490 MANIFOLD

MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD



**INLET/OUTLET REQUIRED CONNECTIONS**  
THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **F:** For the outlets, one 50 series clamp and fitting is required per valve. For the inlets, two 75 series clamps and flange fittings are required. See pages 114–115 for flange fitting options.
  - **Q:** Quick Connect) hose barb type valve fittings are not normally used due to flow limitations. See page 116 for more information on QC fittings.
- Note:** Many manifold configurations are possible by mixing and matching flange fittings.

MOTOR CABLES	
PART CODE	DESCRIPTION
C	POSITIVELY SWITCHED w/ 0.5-METER CABLE
CN	NEGATIVELY SWITCHED w/ 0.5-METER CABLE
* C03	POSITIVELY SWITCHED w/ 0.3-METER CABLE
* CN03	NEGATIVELY SWITCHED w/ 0.3-METER CABLE
* C15	POSITIVELY SWITCHED w/ 1.5-METER CABLE
* CN15	NEGATIVELY SWITCHED w/ 1.5-METER CABLE
* C60	POSITIVELY SWITCHED w/ 6.0-METER CABLE
* CN60	NEGATIVELY SWITCHED w/ 6.0-METER CABLE
D	POSITIVELY SWITCHED w/ DIN CONNECTOR
DN	NEGATIVELY SWITCHED w/ DIN CONNECTOR

Items marked with "\*" are non-stock items. Please contact your regional sales office for ordering and availability information.  
**Note:** DIN cables must be ordered separately. See page 78 for DIN cables.

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	25 RPM, 0.6 SECOND SHUTOFF VALVE
EC	SPST	

**WIRING CONNECTORS**

SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.

See page 117 for electrical connectors and codes.

**REPAIR KIT**

AB356-KIT



# DirectoValve® 540 Series Shutoff Manifold

The 540EC control valve builds upon the proven reliability of TeeJet electric valves in an exciting new package. The gear driven, plunger-style design provides exceptional closing force for positive shutoff and sealing. When working with abrasive solutions, the plunger and seat can also provide improved wear-life as compared to other valve designs. Additionally, the side inlet and bottom outlet configuration provides for a clean and compact installation.

### Features:

- Plunger valve design for positive and reliable shutoff.
- 0.7 second shutoff time fully open to fully closed.
- Available in 2-way version with side inlets and bottom outlet.
- 75 series flanged inlets allows for easy assembly of manifolds and accept a wide variety of flange fittings.
- Quick Connect outlet fitting for rapid attachment and removal of boom lines.
- Maximum pressure rating of 175 PSI (12 bar).
- Flow Rate: 27 GPM (102 l/min) at 5 PSI (0.34 bar) pressure drop, 38 GPM (144 l/min) at 10 PSI (0.69 bar) pressure drop.
- Wetted parts are polypropylene, nylon, stainless steel and Viton®.
- Integral mounting brackets allows for easy installation.
- Integrated 3-Pin Metri-Pack 150-series shroud connector allows for easy electrical hookup. Optional 98546 adapter cable available.



### Wiring Chart

PIN	WIRE COLOR*	BEC MOTOR	BE MOTOR**
A	<b>R</b>	Constant +12VDC	+12VDC to open
B	<b>W</b>	Switched +12VDC (signal)	Not Used
C	<b>B</b>	Constant Ground	-12VDC to open

\* Wire color used in optional 98546 cable.

\*\* For BE motors reverse polarity to close. Requires DPDT switch.

### Wire Codes:

- R** = Red
- W** = White
- B** = Black





### Sample Valve Part Number:

# 543EC-2

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
54	540 MANIFOLD

MOTOR SPECIFICATIONS		
PART CODE	SWITCH	DESCRIPTION
E	DPDT	0.7 SECOND SHUTOFF VALVE
EC	SPST	

MANIFOLD SIZES	
PART CODE	DESCRIPTION
1	1-VALVE MANIFOLD
2	2-VALVE MANIFOLD
3	3-VALVE MANIFOLD
4	4-VALVE MANIFOLD
5	5-VALVE MANIFOLD

VALVE TYPE	
PART CODE	DESCRIPTION
2	2-WAY VALVE

### INLET/OUTLET REQUIRED CONNECTIONS

THE INLET/OUTLET FITTINGS ARE ORDERED SEPARATELY

- **F:** For the inlets, two 75 series clamps and flange fittings are required. See page 114–115 for flange fitting options.
- **Q:** For Quick Connect outlet, one 45529 QC hose barb is required per valve. See page 116 for Quick Connect fitting options.

**Note:** Many manifold configurations are possible by mixing and matching flange fittings.

### REPAIR KIT

AB540-KIT

### Sample Cable Part Number:

# 98546EC-15-VX

MODEL SPECIFICATION	
PART CODE	DESCRIPTION
98546EC	3-WIRE CABLE WITH METRI-PACK TOWER CONNECTION

LENGTH SPECIFICATION	
PART CODE	DESCRIPTION
05	0.5 METER (20")
15	1.5 METER (60")
30	3.0 METER (120")
60	6.0 METER (240")

WIRING CONNECTORS
SPECIFY ELECTRICAL CONNECTOR STYLE AND PIN-OUTS. IF NO CONNECTOR IS NEEDED LEAVE BLANK.
See page 117 for electrical connectors and codes.

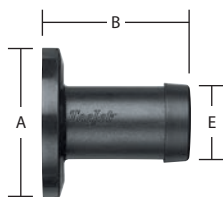


# DirectoValve® Flange Fittings

## Features:

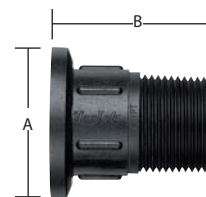
- Polypropylene construction.
- Full port design.
- Viton® O-ring seal available with clamp (not included with flange).

## Straight Hose Barb Flanges



DESCRIPTION	SERIES	"A"	"B"	"E"	PART NUMBER
¾" Hose Barb	50	2" (51 mm)	1 1/16" (43 mm)	¾" (19 mm)	CP48150-PP
1" Hose Barb	50	2" (51 mm)	2" (51 mm)	1" (25 mm)	CP45504-PP
1¼" Hose Barb	50	2" (51 mm)	2" (51 mm)	1¼" (31 mm)	CP45505-PP
1½" Hose Barb	50	2" (51 mm)	2" (51 mm)	1½" (38 mm)	CP45506-PP
1¼" Hose Barb	75	3 1/16" (78 mm)	1 3/16" (46 mm)	1¼" (31 mm)	CP48160-PP
1½" Hose Barb	75	3 1/16" (78 mm)	2 3/16" (56 mm)	1½" (38 mm)	CP46067-PP
2" Hose Barb	75	3 1/16" (78 mm)	2 ¾" (70 mm)	2" (51 mm)	CP48161-PP

- Maximum pressure rating of 200 PSI (14 bar) for 75 series fittings.
- Maximum pressure rating of 300 PSI (20 bar) for 50 series fittings.



## Threaded Flanges (Male)

DESCRIPTION	SERIES	"A"	"B"	PART NUMBER
¾" Male Pipe Thread	50	2" (51 mm)	2" (51 mm)	CP(B)48172-PP
1" Male Pipe Thread	50	2" (51 mm)	2 3/16" (56 mm)	CP(B)48155-PP
1½" Male Pipe Thread	50	2" (51 mm)	2 ¾" (70 mm)	CP(B)48156-PP
1¼" Male Pipe Thread	75	3 1/16" (78 mm)	2 1/2" (64 mm)	CP(B)48165-PP
1½" Male Pipe Thread	75	3 1/16" (78 mm)	2 1/2" (64 mm)	CP(B)48166-PP
2" Male Pipe Thread	75	3 1/16" (78 mm)	2 5/8" (65 mm)	CP(B)48167-PP

(B)=BSPT

## 90° Hose Barb Flanges



DESCRIPTION	SERIES	"A"	"B"	"C"	"E"	PART NUMBER
90° × ¾" Hose Barb	50	2" (51 mm)	1 1/2" (38 mm)	2" (51 mm)	¾" (19 mm)	CP48151-PP
90° × 1" Hose Barb	50	2" (51 mm)	1 1/2" (38 mm)	2" (51 mm)	1" (25 mm)	CP48152-PP
90° × 1¼" Hose Barb	50	2" (51 mm)	1 5/16" (49 mm)	2 5/16" (65 mm)	1¼" (31 mm)	CP72238-PP
90° × 1½" Hose Barb	50	2" (51 mm)	1 5/16" (49 mm)	2 5/16" (65 mm)	1½" (38 mm)	CP72239-PP
90° × 1¼" Hose Barb	75	3 1/16" (78 mm)	1 5/16" (49 mm)	2 5/16" (65 mm)	1¼" (31 mm)	CP48162-PP
90° × 1½" Hose Barb	75	3 1/16" (78 mm)	1 5/16" (49 mm)	2 5/16" (65 mm)	1½" (38 mm)	CP48163-PP
90° × 2" Hose Barb	75	3 1/16" (78 mm)	1 5/16" (49 mm)	3 5/16" (84 mm)	2" (51 mm)	CP48164-PP

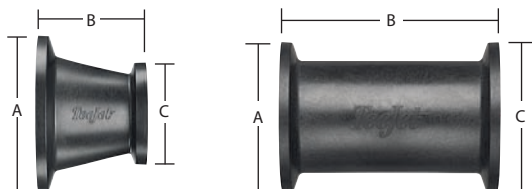
## Gauge Port Flange



DESCRIPTION	SERIES	"A"	"B"	PART NUMBER
¼" Gauge Port	50	2" (51 mm)	¾" (19 mm)	CP(B)45508-1/4-PP CP(P)45508-1/4-PP
⅜" Gauge Port	50	2" (51 mm)	¾" (19 mm)	CP(B)45539-3/8-PP CP(P)45539-3/8-PP
Blank Inlet Cover	50	2" (51 mm)	5/16" (8 mm)	CP45507-PP
¼" Gauge Port	75	3 1/16" (78 mm)	¾" (9 mm)	CP(B)46127-1/4-PP
⅜" Gauge Port	75	3 1/16" (78 mm)	¾" (9 mm)	CP(B)46127-3/8-PP
Blank Inlet Cover	75	3 1/16" (78 mm)	¾" (9 mm)	CP46069-PP

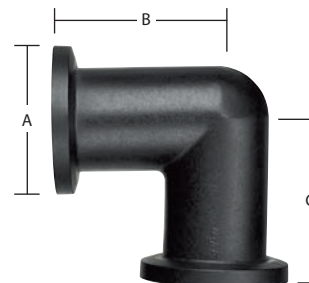
(B)=BSPT (P)=BSPP

## Straight Flange Couplings



DESCRIPTION	SERIES	"A"	"B"	"C"	PART NUMBER
Straight Coupling	50	2" (51 mm)	2¼" (57 mm)	2" (51 mm)	CP48157-PP
Straight Coupling	75	3 1/16" (78 mm)	4 3/8" (111 mm)	3 1/16" (78 mm)	CP48169-PP
Reducer Coupling	75/50	3 1/16" (78 mm)	2 3/16" (56 mm)	2" (51 mm)	CP45207-PP

## 90° Flange Couplings

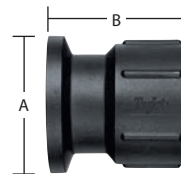


DESCRIPTION	SERIES	"A"	"B"	"C"	PART NUMBER
90° Elbow Coupling	50	2" (51 mm)	2 3/16" (56 mm)	2 3/16" (56 mm)	CP48158-PP
90° Elbow Coupling	75	3 1/16" (78 mm)	2 3/16" (56 mm)	3 1/16" (79 mm)	CP48168-PP

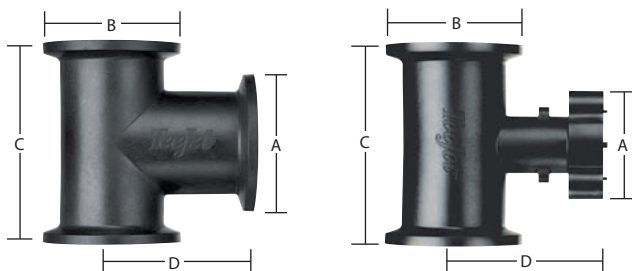


## Threaded Flanges (Female)

DESCRIPTION	SERIES	"A"	"B"	PART NUMBER
1" Female Pipe Thread	50	2" (51 mm)	2" (51 mm)	CP(B)48154-PP
1¼" Female Pipe Thread	50	2" (51 mm)	2" (51 mm)	CP(B)45512-PP
1½" Female Pipe Thread	75	3½" (78 mm)	2" (51 mm)	CP(B)46066-PP



(B)=BSPT



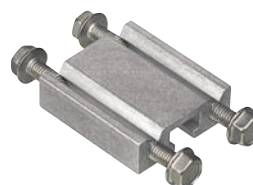
## Tee Flanges

DESCRIPTION	SERIES	"A"	"B"	"C"	"D"	PART NUMBER
Tee	50	2" (51 mm)	2" (51 mm)	4¾" (111 mm)	27⁄8" (73 mm)	CP50193-PP
Narrow Tee		2" (51 mm)	2" (51 mm)	3¾" (81 mm)	2" (51 mm)	CP55242-PP
Reducer Tee	50/75	2" (51 mm)	3½" (78 mm)	4¾" (111 mm)	27⁄8" (73 mm)	CP46717-PP
Tee	75	3½" (78 mm)	3½" (78 mm)	4¾" (111 mm)	31⁄8" (79 mm)	CP46716-PP
450 Tee Body	75	—	3½" (78 mm)	4¾" (111 mm)	3¼" (82 mm)	CP45251-PP
450 Tee Body (Narrow)	75	—	3½" (78 mm)	31⁄8" (79 mm)	3¼" (82 mm)	CP55224-PP

**Note:** There are no mounting provisions on the 50 series tee.

## 48143 Mounting Kit

Mounts to underside of tee and includes one extrusion and four screws. Mounting kit is not included with tees. Must be ordered separately. Also requires 5⁄16" or 8 mm bolt.



DESCRIPTION	PART NUMBER
Tee Mounting Kit (450 or 490 series manifold)	48143

## Flange Clamps

DESCRIPTION	SERIES	PART NUMBER
2-Way Valve	50	46070*
3-Way Valve	50	46024*
2-Way Valve Stainless Steel	50	55245-50*
Viton® O-ring	50	CP7717-2/222-VI
2-Way Valve Stainless Steel	75	55245-75*
Viton O-ring	75	CP7717-2-229-VI



46024



46070



55245-50



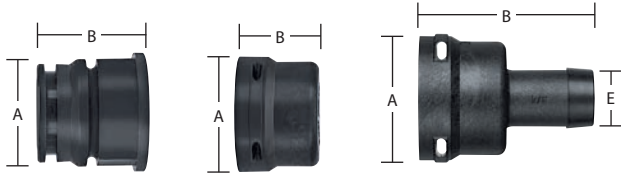
55245-75

\*Note: O-ring included.



# DirectoValve® Quick Connect Fittings

- Standard Quick Connect fittings for use on valves and components equipped with Quick Connect outlets.
- Rated to 300 PSI (20 bar).



## Quick Connect Straight Hose Barb

DESCRIPTION	SERIES	"A"	"B"	"E"	PART NUMBER
1/2" Straight Hose Barb	QC(f)	1 1/16" (43 mm)	2 1/4" (57 mm)	1/2" (12 mm)	45529-1/2
5/8" Straight Hose Barb				5/8" (15 mm)	45529-5/8
3/4" Straight Hose Barb				3/4" (19 mm)	45529-3/4
1" Straight Hose Barb				1" (25 mm)	45529-1
Quick Connect Cap	QC(m)	1 1/16" (43 mm)	1 1/8" (28 mm)		45529-C
Quick Connect Plug	QC(m)	1 7/16" (36 mm)	1 3/16" (33 mm)		45529-P

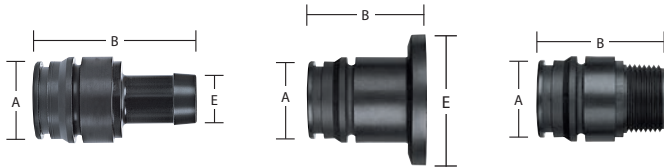
Note: O-ring and clip included.



## 90° Quick Connect Hose Barb

DESCRIPTION	SERIES	"A"	"B"	"C"	"E"	PART NUMBER
1/2" 90° Hose Barb	QC(f)	1 1/16" (43 mm)	2 19/64" (58 mm)	1 5/8" (41 mm)	1/2" (12 mm)	45529-90-1/2
3/4" 90° Hose Barb					3/4" (19 mm)	45529-90-3/4
1" 90° Hose Barb					1" (25 mm)	45529-90-1

Note: O-ring and clip included.

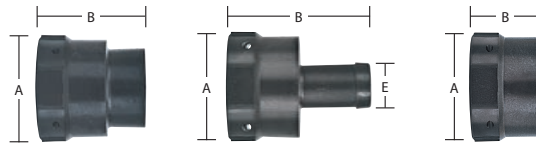


## Male Quick Connect Fittings

DESCRIPTION	SERIES	"A"	"B"	"E"	PART NUMBER
50-Series Flange	QC(m)	1 3/16" (33 mm)	1 3/16" (46 mm)	2" (51 mm)	CP46029-PP
3/4" Male Pipe Thread			2" (51 mm)		CP45527-NYB
1" Male Pipe Thread					CP45526-NYB
3/4" Hose Barb*			2 7/16" (62 mm)	3/4" (19 mm)	45529-3/4M
1" Hose Barb*			1" (25 mm)		45529-1M

Note: Items marked with "\*" include clip and O-ring.

- Large Quick connect fittings are used exclusively for 430 manifold inlets.
- Rated to 215 PSI (15 bar).



## Large Quick Connect Threaded Fitting

DESCRIPTION	SERIES	"A"	"B"	PART NUMBER
1/4" Female Thread (Gauge Port)	Large Quick Connect	2 1/2" (64 mm)	2 1/4" (57 mm)	(B)58456-1/4
3/4" Female Thread				(B)58456-3/4
1" Female Thread				(B)58456-1
1 1/4" Female Thread				(B)58456-1-1/4
1 1/2" Female Thread				(B)58456-1-1/2

Note: O-ring and clip included.

(B)=BSPT

## Large Quick Connect Cap Fitting

DESCRIPTION	SERIES	"A"	"B"	PART NUMBER
Cap Fitting	Large Quick Connect	2 1/2" (64 mm)	1 5/8" (41 mm)	58456-C

Note: O-ring and clip included.



## Clip and O-Ring

DESCRIPTION	PART NUMBER
Retaining Clip 302SS	CP37166-1-302SS
O-Ring (Viton®)	CP7717-3-912-VI

## Large Quick Connect Straight Hose Barb Fitting

DESCRIPTION	SERIES	"A"	"B"	"E"	PART NUMBER	
1" Straight Hose Barb	Large Quick Connect	2 1/2" (64 mm)	3 1/4" (83 mm)	1" (25 mm)	58456-1000	
1 1/4" Straight Hose Barb				1 1/4" (32 mm)	58456-1250	
1 1/2" Straight Hose Barb				3 1/2" (89 mm)	1 1/2" (38 mm)	58456-1500
2" Straight Hose Barb				4" (102 mm)	2" (51 mm)	58456-2000

Note: O-ring and clip included.

## Clip and O-Ring

DESCRIPTION	PART NUMBER
Retaining Clip 302SS	CP58439-302SS
O-Ring (Viton®)	CP7717-M40X4-VI





**Note:** TeeJet Technologies recommends the use of sealed connectors to improve reliability and prolong component life.

**CHART 1: CONNECTOR CODES**

	AMP MALE FASTON CONNECTOR				AMP FEMALE FASTON CONNECTOR			
		<p><b>Note:</b> No pin-out code needed with these connectors.</p> <p>2-PIN = CODE A      3-PIN = CODE J</p>				<p><b>Note:</b> No pin-out code needed with these connectors.</p> <p>2-PIN = CODE B      3-PIN = CODE K</p>		
2-PIN OR 3-PIN	AMP FEMALE MATE-N-LOK® CONNECTOR (SEALED)				AMP MALE MATE-N-LOK® CONNECTOR (SEALED)			
	<p>Pin 1 — Pin 2 —</p> <p>2-PIN = CODE C</p>		<p>Pin 1 — Pin 2 — Pin 3 —</p> <p>3-PIN = CODE L</p>		<p>Pin 1 — Pin 2 —</p> <p>2-PIN = CODE D</p>		<p>Pin 1 — Pin 2 — Pin 3 —</p> <p>3-PIN = CODE M</p>	
	PACKARD WEATHER PACK SHROUD CONNECTOR (SEALED)				PACKARD WEATHER PACK TOWER CONNECTOR (SEALED)			
	<p>2-PIN = CODE E</p>		<p>3-PIN = CODE O</p>		<p>2-PIN = CODE F</p>		<p>3-PIN = CODE P</p>	
	DEUTSCH DT FEMALE CONNECTOR (SEALED)				DEUTSCH DT MALE CONNECTOR (SEALED)			
	<p>2-PIN = CODE G</p>		<p>3-PIN = CODE Q</p>		<p>2-PIN = CODE H</p>		<p>3-PIN = CODE R</p>	
PACKARD METRIPACK FEMALE CONNECTOR (SEALED)				JST VH FEMALE CONNECTOR (SEALED)				
<p>3-PIN = CODE S</p>				<p>2-PIN = CODE I</p> <p>3-PIN = CODE T</p>				
4-PIN	PACKARD WEATHER PACK SHROUD CONNECTOR (SEALED)				PACKARD WEATHER PACK TOWER CONNECTOR (SEALED)			
	<p>4-PIN = CODE U</p>				<p><b>Note:</b> "VX" connector style is used to connect valves to many TeeJet controller harnesses.</p> <p>4-PIN = CODE V</p>			
<th colspan="4">DEUTSCH DT FEMALE CONNECTOR (SEALED)</th>				DEUTSCH DT FEMALE CONNECTOR (SEALED)				
<p>4-PIN = CODE W</p>								

**CHART 2: PIN-OUT CODES**

CODE LETTER	CONNECTOR POSITION				CODE LETTER	CONNECTOR POSITION			
	A OR 1	B OR 2	C OR 3	D OR 4		A OR 1	B OR 2	C OR 3	D OR 4
A	R	W	P	B	M	P	R	W	B
B	R	W	B	P	N	P	R	B	W
C	R	B	W	P	O	P	W	R	B
D	R	B	P	W	P	P	W	B	R
E	R	P	W	B	Q	P	B	R	W
F	R	P	B	W	R	P	B	W	R
G	W	R	B	P	S	B	R	W	P
H	W	R	P	B	T	B	R	P	W
I	W	P	R	B	U	B	W	R	P
J	W	P	B	R	V	B	W	P	R
K	W	B	R	P	W	B	P	R	W
L	W	B	P	R	X	B	P	W	R

**How to order:**

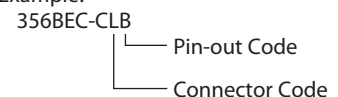
This system is to be used for 344B and 356B ball valves and 440B, 450B, 460B and 490B ball valve manifolds equipped with electrical connectors. Connector and pin-outs are to be specified in valve or manifold part number when ordering.

**Note:** On 2-pin connectors, only pin-out code C or S is used.

First: Specify code for connector desired (See Chart 1).

Second: Specify appropriate wire pin-out arrangement (See Chart 2).

Example:



**Wire Codes:**

- R = Red (+12V)
- W = White (Switched)
- P = Plugged
- B = Black (Ground)





# DirectoValve® 2-Way Electrically Operated Solenoid Valves

## AA144P-, AA144A-, AA145H-, DirectoValve Control Valves

- Direct acting; large internal flow chamber without pilot hole reduces chance of clogging.
- Stainless steel wetted parts provide additional corrosion resistance.

- Operate on 12 VDC system.
- Maximum pressure of 100 PSI (7 bar).
- Encapsulated solenoid coil can be changed without removing valve from system.

- EPDM diaphragms and seat washers, Viton® optional.
- Continuous flow through bypass connection, with flow to spray line controlled by valve "on-off" action.



AA144P



AA144P-3  
(Three Unit)

### AA144P DirectoValve Control Valves

- Flow Rate: 10 GPM (38 l/min) at 5 PSI (0.34 bar) pressure drop, 14 GPM (53 l/min) at 10 PSI (0.69 bar) pressure drop.
- 2.5 amp current draw.
- Polypropylene body for chemical resistance.

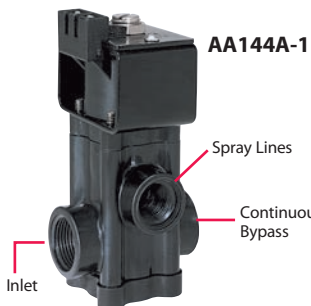
- Fabric reinforced Viton diaphragms and seat washers.
- No stroke adjustment required.
- Corrosion resistant, 430SS solenoid grade armature and armature stop.
- Encapsulated coil and magnetic circuit.

#### How to order:

To order, specify AA144P- then "1", "2" or "3" to indicate number of units.  
Example: AA(B)144P-3

MODEL NUMBER	INLET SIZE	OUTLET SIZE	CURRENT DRAW
AA(B)144P-*	¾"	½"	2.5 amp

(B) = BSPT



AA144A-1

### AA144A Valve for Pressures up to 100 PSI (7 bar)

- Flow Rate: 10 GPM (38 l/min) at 5 PSI (0.34 bar) pressure drop, 14 GPM (53 l/min) at 10 PSI (0.69 bar) pressure drop.
- Can be ganged with other 144A DirectoValve control valves.
- 2.5 amp current draw.
- Polypropylene body for chemical resistance.
- Fabric reinforced diaphragms.

- Also available as 2- or 3-unit assembly.

#### How to order:

To order, specify AA144A- then "1", "2" or "3" to indicate number of units.  
Example: AA(B)144A-3

AA144A-3  
(Three Unit)



MODEL NUMBER	INLET SIZE	OUTLET SIZE	CURRENT DRAW
AA(B)144A-*	¾"	½"	2.5 amp

(B) = BSPT



AA145H

### AA145H Control Valves

- Flow Rate: 15 GPM (57 l/min) at 5 PSI (0.34 bar) pressure drop, 21 GPM (79 l/min) at 10 PSI (0.69 bar) pressure drop.
- Can be ganged with other 145H DirectoValve control valves.
- 2.9 amp current draw.
- Fiberglass reinforced Nylon body.

#### How to order:

Specify part number.  
Example: AA145H-1

MODEL NUMBER	INLET SIZE	OUTLET SIZE	CURRENT DRAW
AA145H-1	1"	1"	2.9 amp



AA144P-1-3

## AA144P-1-3 DirectoValve Control Valves

The 144P-1-3 three-way solenoid-operated DirectoValve control valve was specifically designed to provide bypass control in spraying applications. When used with part number 23520-PP throttling valve or a 4916 metering orifice plate in the bypass line, it can provide for a constant pressure spray system.

- For pressure to 65 PSI (4.5 bar).
- Flow Rate: 8 GPM (30 l/min) at 5 PSI (0.34 bar) pressure drop, 11 GPM (42 l/min) at 10 PSI (0.69 bar) pressure drop.
- Fabric-reinforced Viton® diaphragms.

- Nylon encapsulated 12 VDC coil with 1/4" Quick Connect terminals.
- Power requirement 2.5 amp.
- Glass-filled polypropylene (black) valve body.
- Internal metal parts are stainless steel.
- No stroke adjustment needed.
- Corrosion resistant, 430SS solenoid grade armature and armature stop.

**How to order:** Specify part number.  
Example: AA(B)144P-1-3

**Note:** 23520 Throttling Valve not included. See page 123 for more information.



AA144P-3-3  
(Three Unit)

## AA144A-1-3 DirectoValve Control Valves

The three-way solenoid-operated DirectoValve control valve bypasses boom flow to maintain constant spraying pressure when one or more boom sections are shut off. To maintain pressure with a 23520 Throttling Valve, Outlet 2 must be throttled to match the total capacity of the nozzles on that boom section.

- For pressures to 65 PSI (4.5 bar).
- Flow Rate: 8 GPM (30 l/min) at 5 PSI (0.34 bar) pressure drop, 11 GPM (42 l/min) at 10 PSI (0.69 bar) pressure drop

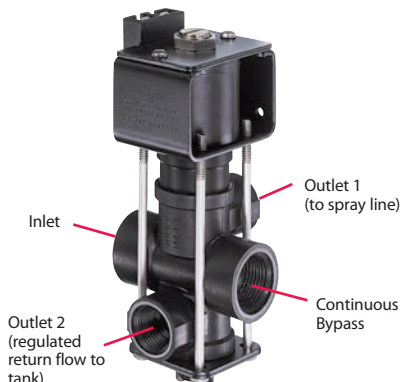
- 2.5 amp current draw.
- Encapsulated 12 VDC coil can be easily changed without removing valve from line.
- Polypropylene body for chemical resistance.
- Stainless steel internal metal parts.
- Chemical resistant EPDM diaphragms and seat washers.

**How to order:**  
As with the 144A DirectoValve, the 144A-1-3 can be supplied as a 2-unit and 3-unit assembly. When ordering, specify 144A-2-3 or 144A-3-3.

**Note:** 23520 Throttling Valve not included. See page 123 for more information.



AA144A-3-3  
(Three Unit)



AA144A-1-3

MODEL NUMBER	NUMBER OF UNITS IN ASSEMBLY	SPRAY LINE CONNECTION	CONTINUOUS FLOW INLET BYPASS CONNECTION
AA(B)144P-1-3	1	1/2"	3/4"
AA(B)144P-2-3	2	1/2"	3/4"
AA(B)144P-3-3	3	1/2"	3/4"
AA(B)144A-1-3	1	1/2"	3/4"
AA(B)144A-2-3	2	1/2"	3/4"
AA(B)144A-3-3	3	1/2"	3/4"

(B) = BSPT



# DirectoValve® 340 Series 2-Way Manual Shutoff Ball Valves



AA(B)344M-NYB

## 344M-NYB 2-Way Nylon Manual Ball Valves

- Quarter turn of handle from shutoff to full flow.
- 3/4" or 1" NPT and BSPT (F) connection.
- Wetted parts: Nylon, Teflon®, polypropylene and Viton®.

**How to order:**  
Specify valve number.  
Example: AA(B)344M-2-1

### AA(B)344M-NYB

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)344M-2-3/4	300 PSI (20 bar)	1	3/4"
AA(B)344M-2-1		1	1"

**Flow Rate:** 5 PSI (0.34 bar) pressure drop for 32 GPM (121 l/min) flow.

(B) = BSPT



AA(B)343M-PP

## 340M-PP Series 2-Way Manual Ball Valves

- Quarter turn of handle from shutoff to full flow.
- 3/8", 1/2", 3/4", 1", 1 1/4" or 1 1/2" NPT and BSPT (F) connection.
- Wetted parts: glass-reinforced polypropylene, Teflon and Viton.

**How to order:**  
Specify valve number.  
Example: AA(B)343M-2-3/8-PP

### AA(B)343M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)343M-2-3/8-PP	150 PSI (10 bar)	1	3/8"
AA(B)343M-2-1/2-PP		1	1/2"

**Flow Rate:** 5 PSI (0.34 bar) pressure drop for 11 GPM (42 l/min) flow.

(B) = BSPT



AA(B)344M-PP

**How to order:**  
Specify valve number.  
Example: AA(B)344M-2-3/4-PP

### AA(B)344M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)344M-2-3/4-PP	125 PSI (9 bar)	1	3/4"
AA(B)344M-2-1-PP		1	1"

**Flow Rate:** 5 PSI (0.34 bar) pressure drop for 32 GPM (121 l/min) flow.

(B) = BSPT



AA(B)346M-PP

**How to order:**  
Specify valve number.  
Example: AA(B)346M-2-1-1/4-PP

### AA(B)346M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)346M-2-1-1/4-PP	125 PSI (9 bar)	1	1 1/4"
AA(B)346M-2-1-1/2-PP		1	1 1/2"

**Flow Rate:** 5 PSI (0.34 bar) pressure drop for 100 GPM (379 l/min) flow.

(B) = BSPT



AA(B)344M-NYB

### 344M-NYB 3-Way Nylon Manual Ball Valves

- 3-way version diverts flow to either outlet; no shutoff.
- 3/4" or 1" NPT and BSPT (F) connection.
- Wetted parts: Nylon, virgin Teflon®, polypropylene and Viton®.

**How to order:**  
Specify valve number.  
Example: AA(B)344M-3-1

#### AA(B)344M-NYB

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)344M-3-3/4	300 PSI (20 bar)	2	3/4"
AA(B)344M-3-1		2	1"

Flow Rate: 5 PSI (0.34 bar) pressure drop for 24 GPM (91 l/min) flow.

(B) = BSPT



AA(B)343M-PP

### 340M-PP Series 3-Way Manual Ball Valves

- 3-way version diverts flow to either outlet; no shutoff.
- 3/8", 1/2", 3/4", 1", 1 1/4" or 1 1/2" NPT and BSPT (F) connection.
- Wetted parts: glass-reinforced polypropylene, virgin Teflon and Viton.

**How to order:**  
Specify valve number.  
Example: AA(B)343M-3-3/8-PP

#### AA(B)343M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)343M-3-3/8-PP	150 PSI (10 bar)	2	3/8"
AA(B)343M-3-1/2-PP		2	1/2"

Flow Rate: 5 PSI (0.34 bar) pressure drop for 8 GPM (30 l/min) flow.

(B) = BSPT



AA(B)344M-PP

**How to order:**  
Specify valve number.  
Example: AA(B)344M-3-3/4-PP

#### AA(B)344M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)344M-3-3/4-PP	125 PSI (9 bar)	2	3/4"
AA(B)344M-3-1-PP		2	1"

Flow Rate: 5 PSI (0.34 bar) pressure drop for 24 GPM (91 l/min) flow.

(B) = BSPT



AA(B)346M-PP

**How to order:**  
Specify valve number.  
Example: AA(B)346M-3-1-1/4-PP

#### AA(B)346M-PP

VALVE NUMBER	MAXIMUM PRESSURE	NUMBER OF OUTLETS	CONNECTION SIZE
AA(B)346M-3-1-1/4-PP	125 PSI (9 bar)	2	1 1/4"
AA(B)346M-3-1-1/2-PP		2	1 1/2"

Flow Rate: 5 PSI (0.34 bar) pressure drop for 64 GPM (242 l/min) flow.

(B) = BSPT



## Piston-Type Pressure Relief/Regulating Valves

Bypasses excess liquid. Adjustable to maintain control of line pressure at any pressure within the valve's operating range. Selected pressure setting firmly held in place by locknut. Extra large valve passages to handle large flows.



**Model 23120**

### Model 23120

- 302 stainless steel spring and EPDM O-ring.
- Excellent chemical resistance.
- 1/4" port for pressure gauge pipe plug included.

### Model 23120A

- Same as 23120 but with 316SS spring and Viton® O-ring.

#### How to order:

Specify valve number.  
Example: (B)23120-1/2-PP

VALVE NUMBER	INLET & PIPE CONNECTIONS	MATERIAL	PRESSURE RANGE
(B)23120-*-PP	1/2" or 3/4"	Polypropylene	150 PSI (10 bar)
(B)23120A-*-PP	1/2" or 3/4"	Polypropylene	150 PSI (10 bar)
(B)23120-*-PP-60	1/2" or 3/4"	Polypropylene	60 PSI (4 bar)
(B)23120-*-PP-60-VI	1/2" or 3/4"	Polypropylene/Viton®	60 PSI (4 bar)

\*Specify pipe size.

(B) = BSPT



**Model 6815**

### Model 6815

- Other models for high pressures up to 1,200 PSI (82 bar) are also available.
- Brass also available with hardened stainless steel seat.

#### How to order:

Specify valve number.  
Example: (B)6815-1/2-50

VALVE NUMBER	INLET & PIPE CONNECTIONS	MATERIAL	PRESSURE RANGE
(B)6815-*-50	1/2" or 3/4"	Brass or Aluminum	50 PSI (3.5 bar)
(B)6815-*-300	1/2" or 3/4"	Brass or Aluminum	300 PSI (20 bar)
(B)6815-*-700	1/2" or 3/4"	Brass or Aluminum	700 PSI (48 bar)

\*Specify pipe size.

(B) = BSPT



**Model 110-1/4 and 110-3/8**



**Model 110-1, 110-1-1/4 and 110-1-1/2**

### Model 110

- Removable bonnet for servicing unit without removing valve from line.

#### How to order:

Specify valve number.  
Example: AA(B)110-1/4-300

VALVE NUMBER	INLET & PIPE CONNECTIONS	MATERIAL	PRESSURE RANGE
AA(B)110-*-300	1/4" or 3/8"	Brass	300 PSI (20 bar)
AA(B)110-*-700	1/4" or 3/8"	Brass	700 PSI (48 bar)
AA(B)110-1	1"	Brass, Aluminum or Ductile Iron	150 PSI (10 bar)
AA(B)110-1-1/4	1 1/4"	Brass, Aluminum or Ductile Iron	150 PSI (10 bar)
AA(B)110-1-1/2	1 1/2"	Brass, Aluminum or Ductile Iron	150 PSI (10 bar)

\*Specify pipe size.

(B) = BSPT



**Model 8460**

## Model 8460 Diaphragm-Type Pressure Relief/Regulating Valves

- Flow rate to 56 GPM (212 l/min) for 1/2" and 70 GPM (265 l/min) for 3/4".
- 8460-\*-50 uses stainless steel springs while 8460-\* uses steel springs—responsive to the pressure range of each valve.
- Extra large valve passages to handle full flow from supply line.

- Positive locknut to hold adjustment screw firmly in place. Not affected by jarring and vibration.

#### How to order:

Specify valve number.  
Example: 8460-1/2-50

VALVE NUMBER	INLET & PIPE CONNECTIONS	MATERIAL		PRESSURE RANGE
		INLET BODY	BONNET	
8460-*-50	1/2" or 3/4"	Nylon	Aluminum	50 PSI (3.5 bar)
8460-*	1/2" or 3/4"	Nylon	Aluminum	300 PSI (20 bar)

\*Specify pipe size.

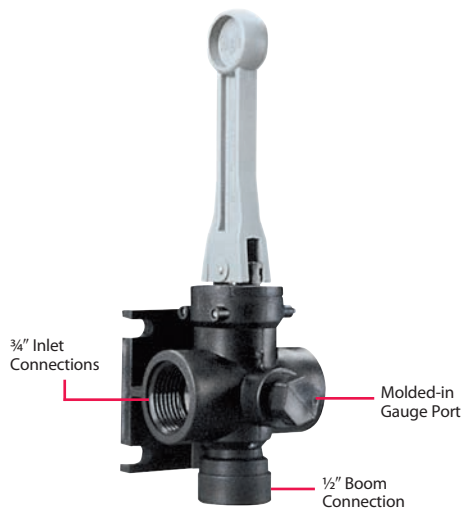
# DirectoValve® Manual Control Valve



## Model 6B

- Molded of corrosion resistant materials; all wetted parts are polypropylene, stainless steel and polyethylene.
- Maximum pressure of 150 PSI (10 bar).
- Flow Rate: 12 GPM (47 l/min) at 5 PSI (0.34 bar) pressure drop, 17 GPM (64 l/min) at 10 PSI (0.69 bar) pressure drop.
- Molded-in mounting flange and ¼" NPT gauge port.
- Valves can be ganged together using hex nipple for multiple boom control.
- Easily repaired without removing valve from spray line.

**How to order:**  
Example: AA(B)6B  
(B) = BSPT

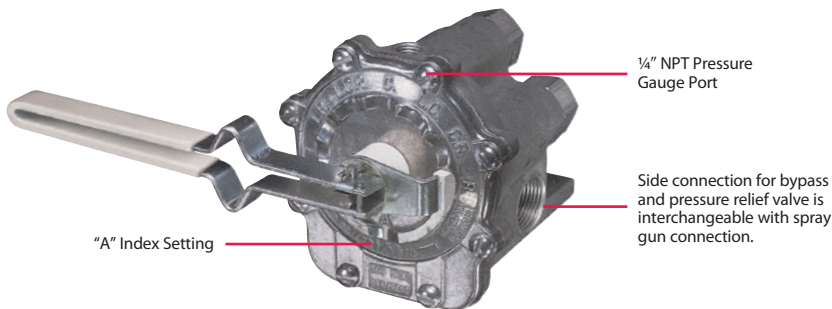


# TeeValve® Control Valves

## For Selective Control of Three-Section Boom Sprayers at Pressures up to 300 PSI (20 bar).

- Use to open any of three boom section lines in any desired combination.
- Raise lever to open, lower lever to close the valve without changing the indexed position.
- Aluminum construction with stainless steel and plastic internal parts for maximum corrosion resistance.

**How to order:**  
Example: AA17Y



## Model AA17

MODEL NUMBER	MATERIAL	MAXIMUM PRESSURE	INLET	(3) BOOM OUTLETS	ACCESSORY OUTLET
AA17Y	Aluminum, Polymer, SS	300 PSI (20 bar)	1" NPT	¾" (F)	¾" (F)
AA17L	Aluminum, Polymer, SS	300 PSI (20 bar)	¾" NPT	¾" (F)	¾" (F)

# TeeJet® Throttling Valves

For regulating flow in systems equipped with centrifugal pumps where sensitive regulation is required or to control flow in jet agitator return lines. Locknut holds pressure setting firmly in place.

## Type 23520



- Polypropylene construction for excellent chemical resistance.
- Pressures to 150 PSI (10 bar).
- ½" and ¾" NPT or BSPT connections.
- Flow rate at 40 PSI (3 bar) is 16 GPM (63 l/min) for ½" size and 34 GPM (136 l/min) for ¾" size.

**How to order:**  
Example: (B)23520-1/2-PP  
(B) = BSPT

## Type 12690



- Pressures to 125 PSI (9 bar).
- Constructed of Nylon, Celcon®, aluminum, steel and stainless steel.
- Choice of ½" or ¾" NPT connections.
- Flow rate at 40 PSI (3 bar) is 36 GPM (142 l/min) for ½" size and 52 GPM (205 l/min) for ¾" size.

**How to order:**  
Example: 12690-1/2-NYB

## Type 12795



- Pressures to 150 PSI (10 bar).
- Available in brass, aluminum or ductile iron.
- Choice of 1", 1¼" or 1½" NPT connections.
- Flow rate at 40 PSI (3 bar) is 116 GPM (453 l/min) for 1" and 1¼" sizes and 172 GPM (679 l/min) for 1½" size.

**How to order:**  
Example: 12795-1