

**SIMPLE DESIGN.
EXCEPTIONAL RELIABILITY.**

1/4" TO 2"
9-1200
SCFM

F-R-L'S
FILTERS, REGULATORS,
LUBRICATORS



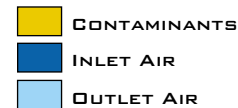
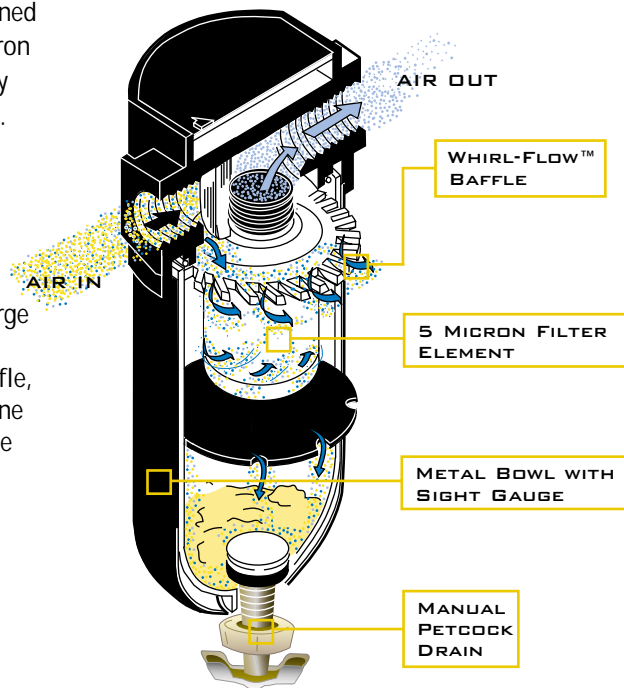
PARTICULATE FILTERS

Champion industrial duty particulate filters are designed for the removal of solid contaminants down to 5 micron and the separation of bulk liquids. The all metal body construction will give years of trouble-free operation.

OPERATION

Wet and dirty inlet air is directed downward and outward in a circular pattern by the turbine-shaped upper baffle. This action mechanically separates a large amount of the liquid and gross particles, which then flow down the inside of the bowl, past the lower baffle, into the quiet zone to be drained away. The quiet zone baffle prevents the contaminants from re-entering the air flow stream.

The partially cleansed air then passes through the filter element. By utilizing depth filtration, the 5 micron filter media provides superior filtration, exceptional service life and minimal pressure drop.



SPECIFICATIONS

Model	Pipe Size (inch)	Max.* Flow (scfm)	Nominal** Flow (scfm)	Dimension w x h (inch)	Weight (lbs)	Replacement Element
CF00-02-M00	1/4"	35	16	1.5 X 3.6	0.4	CFRP-95-235
CF16-02-G00	1/4"	63	30	3.0 X 7.1	2.0	CFRP-95-160
CF16-03-G00	3/8"	74	35	3.0 X 7.1	2.0	CFRP-95-160
CF16-04-G00	1/2"	80	40	3.0 X 7.1	2.0	CFRP-95-160
CF26-04-G00	1/2"	150	70	3.3 X 7.3	3.0	CFRP-95-115
CF30-06-G00	3/4"	323	140	4.6 X 9.8	6.0	CFRP-95-209
CF30-08-G00	1"	316	160	4.6 X 9.8	6.0	CFRP-95-209

Champion 16 and 26 series FRL's can be used individually, pipe nipples to other products or configured with the modular connectors shown on the accessory page. (For larger flow refer to the CFH Bulletin, CA-1-6-215)

Maximum Pressure: 200 psig Maximum Temperature: 150°F

*Maximum flow based on 150 psig/5 psid pressure drop

**Nominal flow based on 100 psig/1.5 psid pressure drop

CLEANER AIR = BETTER PROTECTION

Most competitive FRL manufacturers offer 40 to 50 micron particulate filters as standard. The Champion F Series filters incorporate our deep bed 5 micron element as standard. We provide 8 to 10 times cleaner air and our elements will still last as long as the competitors.



COALESCING FILTERS

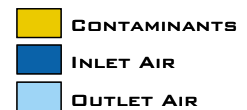
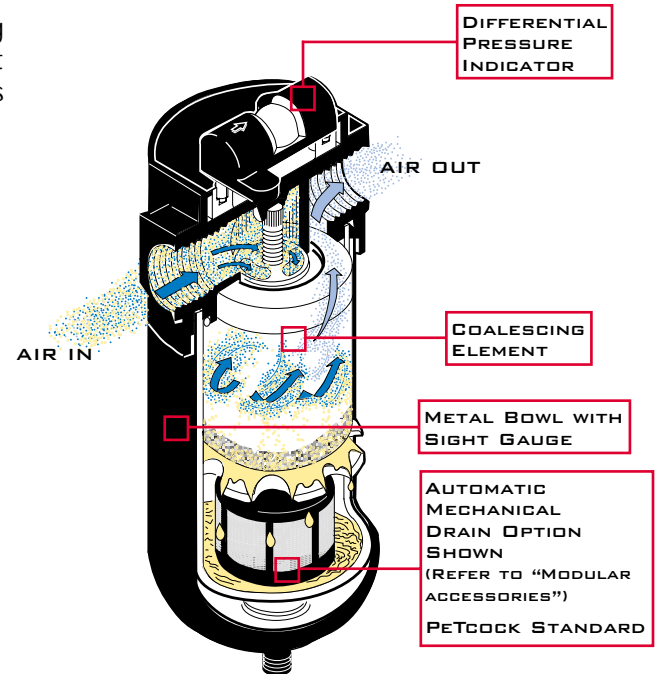
Champion coalescing filters are designed for protecting critical applications and expensive pneumatic equipment by preventing oil aerosols and sub-micronic particles from damaging expensive components.

HOW THE COALESCING ELEMENTS WORK

Using the principles of mechanical filtration, the filter media removes the solid particles first in the pre-filter support layers and then in the actual filter media. The liquid particles similarly collected coalesce together forming larger droplets and as the flow is inside to out, are pushed to the outer surface.

Here, the anti-reentrainment barrier prevents them from being introduced back into the airstream and instead drains them through its cellular structure to the bottom of the element. The liquid is collected in the quite zone at the bottom of the filter where it can then be drained away.

The element should be changed when the differential pressure indicator changes from green to red.



SPECIFICATIONS

Model†	Pipe Size	Max. * Flow (scfm)	Nominal ** Flow (scfm)	Dimensions w x h (ins)	Weight (lbs)
CM00-02-M <input type="checkbox"/> 0	1/4"	20	9	1.5 X 3.6	0.4
CM16-02-G <input type="checkbox"/> 0	1/4"	37	18	3.0 X 8.1	2.0
CM16-03-G <input type="checkbox"/> 0	3/8"	45	21	3.0 X 8.1	2.0
CM16-04-G <input type="checkbox"/> 0	1/2"	48	22	3.0 X 8.1	2.0
CM26-04-G <input type="checkbox"/> 0	1/2"	80	37	3.3 X 8.2	3.0
CM30-06-G <input type="checkbox"/> 0	3/4"	173	85	4.6 X 10.5	6.0
CM30-08-G <input type="checkbox"/> 0	1"	203	100	4.6 X 10.5	6.0

Element Designation	Element Type	Particulate Removal (micron)	Max. Oil Carryover (ppm/wt)
S	Coarse Coalescer	0.5	0.5
O	Fine Coalescer	0.01	0.01
X	Vapor/Odor Removal	—	0.003

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Maximum Pressure: 150 psig Maximum Temperature: 150°F

*Maximum Flow based on inlet pressure of 150 psig/pressure drop of 3 psid
**Nominal Flow based on inlet pressure of 100 psig/pressure drop of 1.5 psid

† To select a part number, enter the desired element designation into the box.

EXAMPLE:

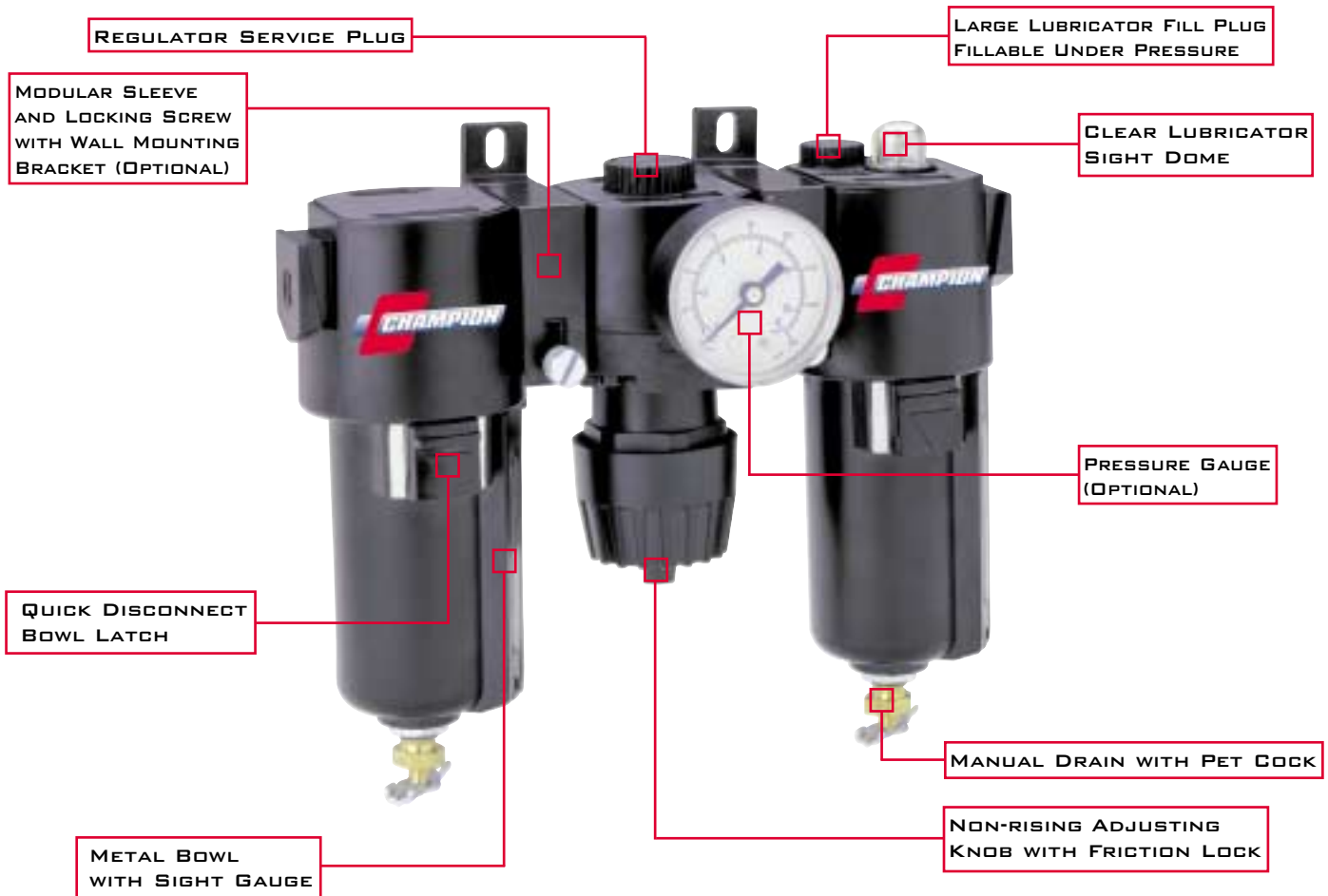
CM00-02-M 0

(S = 0.5 MICRON COARSE COALESCER)

REPLACEMENT ELEMENTS

Model	Element Type		
	S	O	X
CM00	CMSP-95-991	CMTP-95-547	CMXP-95-054
CM16	CMSP-95-988	CMTP-95-548	CMXP-95-987
CM26	CMSP-95-989	CMTP-95-549	CMXP-95-540
CM30	CMSP-95-992	CMTP-95-551	CMXP-95-532

MODULAR FRL 16/26 SERIES



MODULAR COMBINATION UNIT FILTER/REGULATOR/LUBRICATOR FEATURES

Modular components sold separately (assembly required)

- Compact flexible design.
- Easy to service.
- Inlet/outlet ports tapped in 1/4" , 3/8" or 1/2".
- Manual drain standard — automatic mechanical drain sold separately.
- Quick disconnect metal bowl with sight gauge and safety warning latch.
- Standard 5 micron filtration. Coalescing and vapor filters also available.
- Balanced valve design for superior regulation characteristics.
- Excellent regulator flow characteristics with minimal pressure drop.
- Lubricator can be filled while under pressure.
- *Variable Flow-Guide™* orifice maintains constant oil-to-air ratio, regardless of air flow.
- The 16 and 26 Series use the same modular sleeve and locking screw, allowing ease of maintenance and flexibility in installation.

MODULAR FRL ACCESSORIES AND OPTIONS

MODULAR MANIFOLD BLOCKS

Multi-ported manifold blocks for increased design flexibility. Manifold blocks can be installed either after the filter or regulator, providing three additional 1/4" tapped auxiliary ports. Inlet/outlet ports are non-threaded (16 and 26 Series only).

MODULAR MANIFOLD BLOCK - 1/2" PORT
MODEL NUMBER: CGPA-95-919



MODULAR 3-WAY SHUT-OFF VALVE

Exhaust-type safety valves can be installed immediately upstream of an F-R-L unit. The ball-type valve operates with a 1/4 turn from open to shut position. The valve exhausts downstream pressure when in the closed position. Particularly useful for isolation and depressurizing of downstream components requiring maintenance or replacement. (16 and 26 Series Only)

MODULAR SHUT-OFF VALVE **MODEL NUMBER:**
CGPA-95-096, 1/4"
CGPA-95-097, 3/8"
CGPA-95-098, 1/2"



MODULAR SLEEVE WITH MOUNTING BRACKET AND WITHOUT MOUNTING BRACKET

Our unique modular sleeve design easily and quickly connects one or more units and accessories together without pipe nipples. Hand tightening the threaded pin provides a positive seal between modular units. Brackets are designed for mounting a single unit or combination of units directly to a flat surface. The brackets prevent excessive unit vibration or sag in the air supply line (16 and 26 Series only).

MODULAR SLEEVE
MODEL NUMBER: CGPA-95-969 (w/MTG. BRT.), CGPA-95-292



FLOAT AND PISTON DRAINS

The optional automatic drains operate under compressed air pressures ranging from a minimum of 15 psig to a maximum of 200 psig.

For more drain options, refer to the CDV Series of Condensate Drains listed on back cover.

INTERNAL AUTOMATIC FLOAT DRAIN
CF16/CF26/CF30/CM16/CM26/CM30
MODEL NUMBER: CGRP-96-300

INTERNAL AUTOMATIC PISTON DRAIN
CF00/CM00
MODEL NUMBER: CGRP-95-584

**INTERNAL
AUTOMATIC
FLOAT
DRAIN**



**INTERNAL
AUTOMATIC
PISTON
DRAIN**

PRESSURE GAUGE

1.5" Pressure Gauge 1/8" center back mount

CR00 MODEL NUMBER: CGRP-95-227

2" Pressure Gauge 1/4" center back mount

CR16/CR26/CR30/CR40 MODEL NUMBER: CGRP-95-229



LUBRICATORS

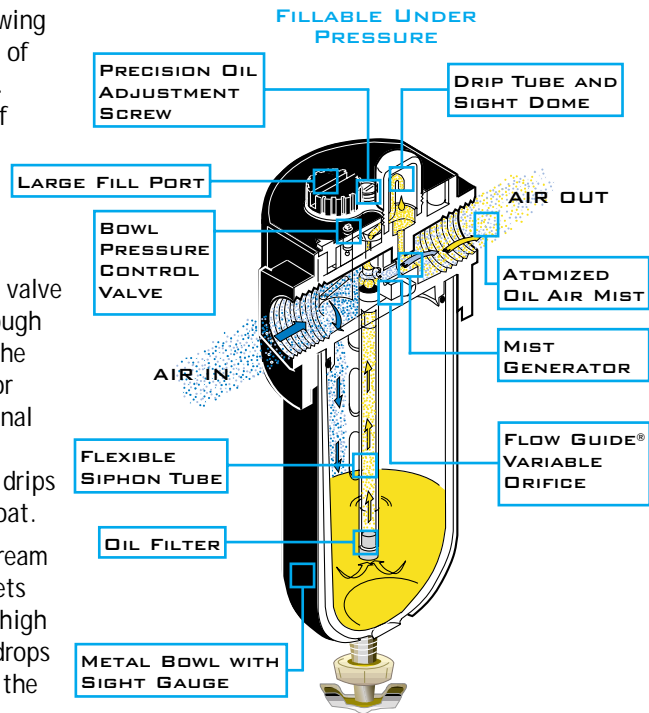
Champion lubricators inject an oil aerosol into the flowing air stream to automatically provide the proper amount of internal lubricant to your vital pneumatic components. The patented Flow Guide® and oil filter ensure years of trouble-free operation.

OPERATION

As the air flows through the lubricator, some of the incoming air passes through the bowl pressure control valve and then pressurizes the bowl pushing oil upward through the siphon tube. Most of the air flow passes through the self-adjusting Flow-Guide® flow sensor in the lubricator throat creating a slight pressure drop that is proportional to the rate of air flow. This forces oil to flow upward through the siphon tube into the sight dome where it drips into a nozzle passage and then into the lubricator throat.

The precise amount of oil to be delivered to the air stream is determined by the oil adjusting needle valve that sets the exact drip rate. The oil drops are atomized by the high velocity air flowing through the lubricator. All of the drops visible in the sight dome are delivered downstream to the air devices.

The self-adjusting flow sensor automatically maintains a constant oil-to-air ratio by opening and closing in response to a wide range of changing air flows. A check valve keeps the siphon tube full of oil during periods of no flow.



SPECIFICATIONS

Model	Pipe Size (inch)	Flow Capacity (scfm)	Useful Retention (ozs)	Dimensions w x h (inch)	Weight (lbs)
CL00-02-M00	1/4"	47	1	1.5 X 4.5	0.4
CL16-02-G00	1/4"	36	5	3.0 X 7.8	2.4
CL16-03-G00	3/8"	59	5	3.0 X 7.8	2.4
CL16-04-G00	1/2"	64	5	3.0 X 7.8	2.4
CL26-04-G00	1/2"	128	10	3.4 X 7.8	3.0
CL30-06-G00	3/4"	196	26	4.6 X 10.9	6.0
CL30-08-G00	1"	374	26	4.6 X 10.9	6.0
CL40-0B-G00	1 1/2"	927	26	5.5 X 11.6	16.3
CL50-0C-G00	2"	1186	26	5.5 X 12.2	14.3

Champion 16 and 26 series FRL's can be used individually, pipe nipples to other products or configured with the modular connectors shown on the accessory page.

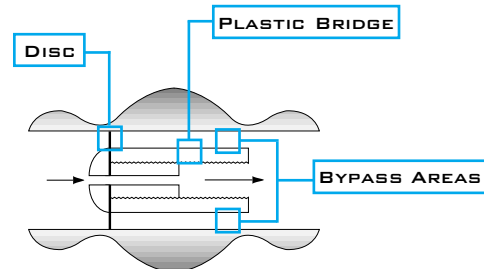
Maximum Pressure: 200 psig

Maximum Temperature: 150°F

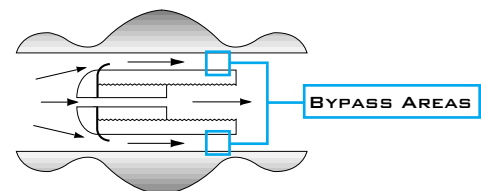
Flow Capacity based on 150 psig/5 psid pressure drop.

CHAMPION FLOW GUIDE®

The patented Champion Flow Guide® (shown below) is an elastomer disc located in the throat of the lubricator. Once the proper oil feed rate is set, the Flow Guide® automatically maintains this constant oil/air ratio regardless of flow changes.



LOWER FLOW



HIGHER FLOW

REGULATORS

Champion heavy duty air line regulators are a convenient and low cost method of reducing a supplied air pressure to a desired outlet pressure. The regulator transforms a fluctuating inlet pressure to a more constant reduced pressure which extends the life of pneumatic components and reduces energy consumption. These rugged regulators are perfect for the most demanding applications.

OPERATION

Turning the adjusting knob clockwise increases downstream pressure. Turning the adjusting knob counterclockwise reduces downstream pressure and allows excess pressure to escape through the relief port. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

SPECIFICATIONS

Model	Pipe Size (inch)	Flow Capacity (scfm)	Dimensions w x h (inch)	Weight (lbs)
CR00-02-000	1/4"	24	1.5 X 3.3	0.5
CR16-02-000	1/4"	72	3.0 X 5.2	2.0
CR16-03-000	3/8"	81	3.0 X 5.2	2.0
CR16-04-000	1/2"	88	3.0 X 5.2	2.0
CR26-04-000	1/2"	185	3.4 X 6.5	2.5
CR30-06-000	3/4"	481	4.3 X 10.3	6.0
CR30-08-000	1"	500	4.3 X 10.3	6.0
CR40-08-000	1 1/2"	1200	5.3 X 11.9	10.8

Champion 16 and 26 series FRL's can be used individually, pipe nipped to other products or configured with the modular connectors shown on the accessory page.

Automatic self-relieving diaphragm is standard

Maximum Pressure: 300 psig

Maximum Temperature: 150°F

Flow Capacity based on 100 psig inlet / 90 psig outlet

INTEGRAL FILTER/REGULATOR

Model	Pipe Size (inch)	Flow Capacity (scfm)	Dimensions w x h (inch)	Weight (lbs)
CCB6-02-G00	1/4"	64	3.0 X 10.1	2.4
CCB6-03-G00	3/8"	70	3.0 X 10.1	2.4
CCB6-04-G00	1/2"	70	3.0 X 10.1	2.4

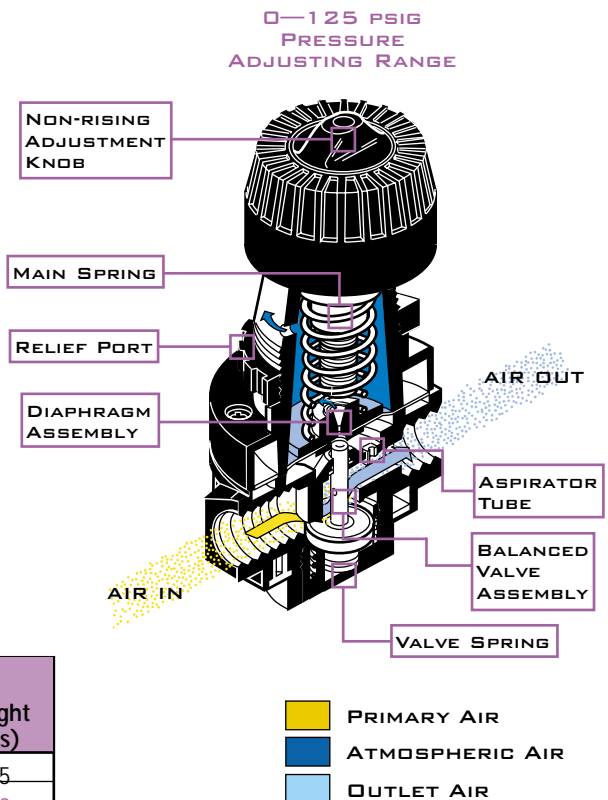
Flow Capacity based on 100 psig inlet / 90 psig outlet

Maximum Pressure: 200 psig

Maximum Temperature: 150°F

Automatic self-relieving diaphragm is standard.

All CB6 filters use a 5 micron element and a metal bowl with sight gauge.



CONDENSATE DRAINS

CDV1

Mechanical Demand Drain

Cost effective Zero Air Loss Drains which do not require electric power. Available in 5 oz. and 32 oz. capacities.

Model	Inlet Port (inch)	Outlet Port (inch)	Flow Capacity (scfm)	Drain Rate (gph @ 100 psig)	Dimensions (Dia x h)	Weight (lbs)
CDV1-5	1/2"	1/8"	150	80	3.1 X 6.5	1.3
CDV1-32	1/2"	1/8"	250	150	4.8 X 8.6	2.0

Maximum Pressure: 200 psig Maximum Temperature: 150 °F

P10324A

Electronic Timer Drain

Durable dual timer drain allows maximum flexibility for various applications.

Model	Inlet Port (inch)	Outlet Port (inch)	Voltage	Dimensions (w x l x h)
P10324A	1/4"	1/4"	120	2.0 X 4.5 X 4.0

Maximum/Minimum Pressure: 275 psig

Maximum Fluid Temperature: 180 °F

Adjustable Cycle Time: 1 minute to 60 minutes.

Adjustable Open Time: 1/10 second to 15 seconds.

CDV4

Motorized Ball Valve

Ideal for applications such as deliquescent dryers that are prone to clogging or sticking open.

Model	Inlet/Outlet Port (inch)	Ball Valve Size (inch)	Voltage	Dimensions (w x l x h)
CDV4-14	1/2"	1/2"	120	2.9 X 6.3 X 6.5
CDV4-16	3/4"	1/2"	120	2.9 X 6.3 X 6.5
CDV4-18	1"	1/2"	120	2.9 X 6.3 X 6.5
CDV4-24	1/2"	1/2"	240	2.9 X 6.3 X 6.5
CDV4-26	3/4"	1/2"	240	2.9 X 6.3 X 6.5
CDV4-28	1"	1/2"	240	2.9 X 6.3 X 6.5

Maximum Pressure: 300 psig @ 190 °F

Adjustable Cycle Time: 4 minutes to 24 hours

Adjustable open time: 7.5 seconds—15 min.



CDV1



P10324A



CDV4



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ONE SOURCE.

