

# **CONDENSATE MANAGEMENT**



## SAVING ENERGY IN COMPRESSED AIR SYSTEMS



Compressed Air Management Impact RM Inc, your ENERGY STAR® Partner



Atmospheric air contains many types of contaminants. These contaminants include moisture, hydrocarbons dust and dirt particles which are smaller than the air intake filter rating. In some cases even lubricant carryover from the compressor itself, all end up in the compressed air. The compression of these solid contaminants only increases their density within the compressed air. Therefore, the discharge air at the outlet of the compressor is far from being clean or dry, and must have the moisture removed and be filtered before the air can be use in pneumatic equipment. There are 3 phases of water in compressed air being liquid water, aerosol (mist) and vapour (gas). The most noticeable and easily removable are water and aerosol which can be removed by condensate drains hooked up to ancillary



equipment. Water vapour is more difficult to remove and requires the use of a desiccant dryer together with high efficiency filtration.

Contaminants in the compressed air increase in density as air is compressed

The amount of compressed air condensate being produced will vary according to temperature, climate zone, relative humidity and the compressed air flow rate. At an ambient temperature of 75°F and 75% relative humidity, a typical 500 scfm air compressor takes in 90 gallons of water every 24 hours. If not properly removed, the accumulation of condensed water in the compressed air system can lead to pressure drop, damage, decreased life expectancy of pneumatic components downstream, rust and scale in the piping network, possible freezing, product spoilage and overall higher operating costs. In lubricated compressors the oil vapour can condense with the water and form an emulsion. Water condensation can occur throughout a compressed air system and it is a good practice to remove as much of this water as possible. The areas where water can accumulate can be found in a number of ancillary equipment types; after-coolers, separators, dryers, filters, air receiver tanks, drop legs or low points through out the piping network.

Impact RM offers a variety of drain traps with large differences in efficiency and pricing. Manual traps and valves are often left open and are known to be responsible for significant compressed air leakage or if not opened on time, moisture carry over occurs. Reliable automatic condensate traps are available from Impact RM that ensure water is regularly drained away and provides good energy efficiency. The most energy efficient type drain trap are our *No Air Loss Drains*, which open only if water is present and closes immediately when the condensate has cleared with the advantage of no air loss during discharge. Alternatively, electronic timed condensate drain traps are also available in a range of sizes, and pressure ratings.

#### Compressed Air Management Impact RM Inc.

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**Impact RM Energy Saving No Air Loss Drains** 

#### Model 4488-C

Operation: Float operated, electronic Reservoir Capacity: 35oz per cycle Valve type: Solenoid Condensate level: Visible Max Pressure: 200PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/2" NPT Discharge Connection: 1/2" NPT Electrical: 115V-1PH-60HZ Overall size (WxDxH): 5.5" x 8" x 13.25" Weight: 15 Lbs.

#### Model 4488-AM1

Operation: Float operated, electronic Reservoir Capacity: 21oz per cycle Valve type: Solenoid Condensate level: Visible Max Pressure: 200PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/2" NPT Discharge Connection: 1/4" NPT Electrical: 115V-1PH-60HZ Overall size (WxDxH): 6.0" x 8.0 x 7.5" Weight: 11 Lbs.

#### Model 4488-AM2

Operation: Float operated, electronic Reservoir Capacity: 8oz per cycle Valve type: Solenoid Condensate level: Visible Max Pressure: 200PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/2" NPT Discharge Connection: 1/4" NPT Electrical: 115V-1PH-60HZ Overall size (WxDxH): 3.5" x 5.5 x 7.5" Weight: 5 Lbs.







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**Impact RM Energy Saving No Air Loss Drains** 

#### Model 4488-R

Operation: Float operated, pneumatic Reservoir Capacity: 35oz per cycle Valve type: Full ported ball Condensate level: Visible Max Pressure: 250PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 3/4" NPT Discharge Connection: 1/2" NPT Overall size (WxDxH): 13" x 9" x 8.5" Weight: 17 Lbs.



#### **Model ADP-1**

Operation: Float operated, pneumatic Reservoir Capacity: 24oz Valve type: Full ported ball Condensate level: Visible **Optional: Liquid heater** Max Pressure: 120PSIG Fluid Temp Min-Max: 35°F - 150°F Inlet Connection: 3/4" NPT Discharge Connection: 1/2" NPT Overall size (WxDxH) : 14.5" x 6.5 x 6.5" Weight: 14 Lbs.

#### Model 4444-H

Operation: Float operated, mechanical Reservoir Capacity: 4oz per cycle Valve type: Orifice Condensate level: Non-Visible Max Pressure: 230PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/2" NPT Discharge Connection: 1/4" NPT Overall size (WxDxH) : 4.1" x 6.0 x 4.1" Weight: 3 Lbs.





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### Impact RM Energy Saving No Air Loss Drains

#### Model B-31

Operation: Level Sensor, electronic Valve type: Diaphram / solenoid valve Condensate level: Non-Visible Max Pressure: 230PSIG Fluid Temp Min-Max: 34°F - 140°F Inlet Connection: 1/2" NPT Discharge Connection: 1/4" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 2.7" x 6.7" x 4.5" Weight: 1.8 Lbs. Flows up to: 176 SCFM

#### Model B-12

Operation: Level Sensor, electronic Valve type: Diaphram / solenoid valve Condensate level: Non-Visible Max Pressure: 230PSIG Fluid Temp Min-Max: 34°F - 140°F Inlet Connection: 1/2" NPT Discharge Connection: 3/8" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 2.5" x 6.2" x 5.5" Weight: 1.7 Lbs. Flows up to 282 SCFM Option: High Pressure up to 915 PSIG

#### Model B-13

Operation: Level Sensor, electronic Valve type: Diaphram / solenoid valve Condensate level: Non-Visible Max Pressure: 230PSIG Fluid Temp Min-Max: 34°F - 140°F Inlet Connection: 1/2" NPT Discharge Connection: 1/2" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 3.7" x 8.4" x 6.4" Weight: 4.4 Lbs. Flows up to 1236 SCFM Option: High Pressure up to 580 PSIG







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#### Model 4477-A-S

Operation: Timer operated, electronic Valve type: solenoid valve Condensate level: Non-Visible Max Pressure: 250PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/4" NPT Discharge Connection: 1/4" NPT Cycle Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-30 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 1.25" x 6.5" x 5.5" Weight: 2.5 Lbs. Options: Available in 3/8" & 1/2" NPT

#### Model 4477-A2-S

Operation: Timer operated, electronic Valve type: solenoid valve Condensate level: Non-Visible Max Pressure: 250 PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/4" NPT Discharge Connection: 1/4" NPT Cycle Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-30 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 3" x 3" x 6" Weight: 4 Lbs. Options: Available in 3/8" & 1/2" NPT

#### **Model 4466**

Operation: Timer operated, electronic Valve type: Ball valve Condensate level: Non-Visible Max Pressure: 400 PSIG Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 3/4" NPT Discharge Connection: 3/4" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 4" x 8" x 7.5" Weight: 7.5 Lbs. Cycle Time: Adjustable 6 - 34 Sec. Drain Time: Adjustable 15 Min. - 3 Hours







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## Impact RM High Pressure Drains 500 PSI +

#### Model TEC-44

Operation: Timer operated, electronic Valve type: Motorized Ball Valve Condensate level: Non-Visible Max Pressure: **700PSIG** Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/2" NPT Discharge Connection: 1/2" NPT Cycle Time: Adjustable, 4 min-24 hr Drain Time: Fixed, 7.5 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 1.25" x 6.5" x 5.5" Weight: 3.5 Lbs. Options: Available in 3/4" & 1" NPT

#### Model B-12COPN

Operation: Level Sensor, electronic Valve type: Diaphram / solenoid valve Condensate level: Non-Visible Max Pressure: **915 PSIG** Fluid Temp Min-Max: 34°F - 140°F Inlet Connection: 1/2" NPT Discharge Connection: 3/8" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 2.5" x 6.2" x 5.6" Weight: 2 Lbs. Flows up to 282 SCFM

#### Model B-13COPN

Operation: Level Sensor, electronic Valve type: Diaphram / solenoid valve Condensate level: Non-Visible Max Pressure: **580 PSIG** Fluid Temp Min-Max: 34°F - 140°F Inlet Connection: 1/2" NPT Discharge Connection: 3/8" NPT Electrical: 110V-1PH-60HZ Overall size (WxDxH): 3.7" x 8.4" x 6.4" Weight: 4.4 Lbs. Flows up to 1236 SCFM







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#### Model 4477-A10

Operation: Timer operated, electronic Valve type: solenoid valve Condensate level: Non-Visible Max Pressure: **1000 PSIG** Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/4" NPT Discharge Connection: 1/4" NPT Cycle Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-30 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 1.25" x 6.5" x 5.5" Weight: 2.5 Lbs.

### Model 4477-A15

Operation: Timer operated, electronic Valve type: solenoid valve Condensate level: Non-Visible Max Pressure: **1500 PSIG** Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/4" NPT Discharge Connection: 1/4" NPT Cycle Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-30 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 1.25" x 6.5" x 5.5" Weight: 2.5 Lbs.

#### Model 4477-A50

Operation: Timer operated, electronic Valve type: solenoid valve Condensate level: Non-Visible Max Pressure: **5000 PSIG** Fluid Temp Min-Max: 35°F - 180°F Inlet Connection: 1/4" NPT Discharge Connection: 1/4" NPT Cycle Time: Adjustable, 1-60 Min Drain Time: Adjustable, 1-30 Sec Electrical: 115V-1PH-60HZ Overall size (WxDxH): 1.25" x 6.5" x 5.5" Weight: 2.5 Lbs.







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