WDV Series

Drain Valves To Fit Every Compressed Air Condensate Removal Application

WILKERSON
CORPORATION

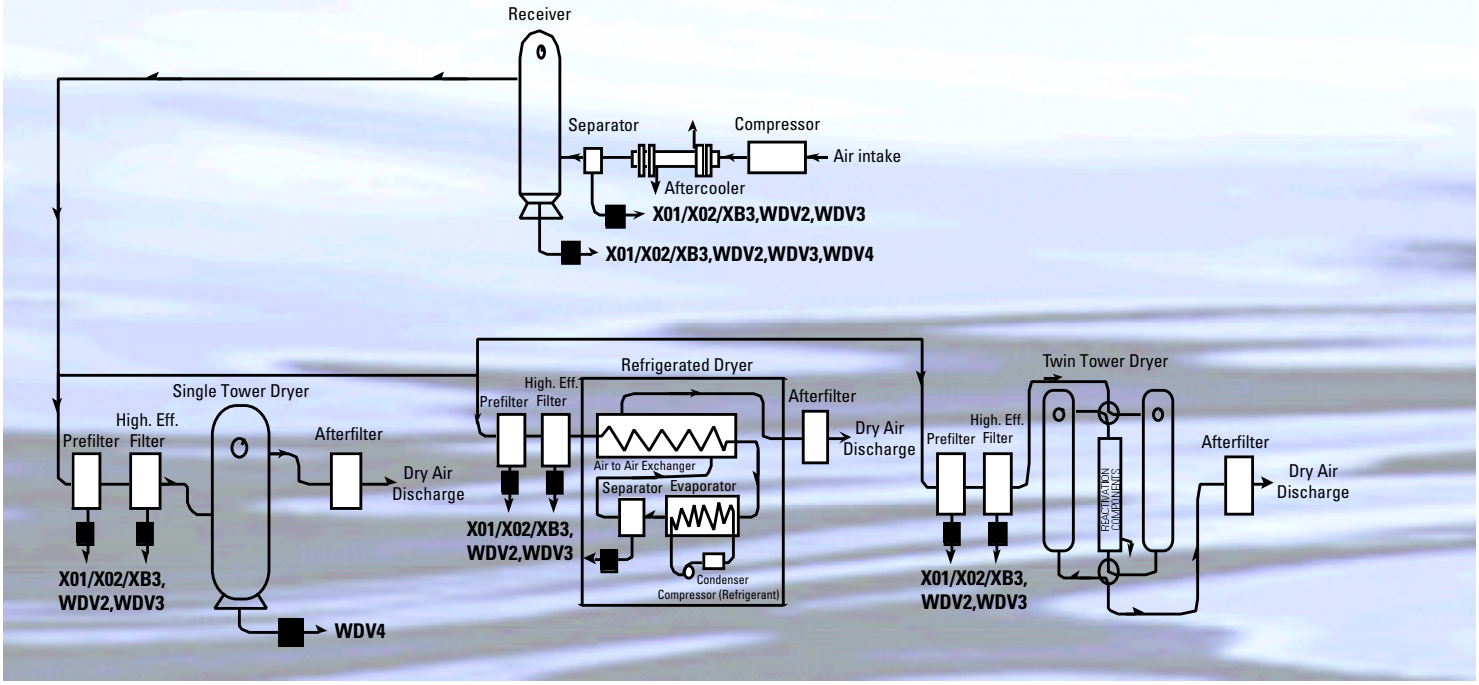
Why Use Drain Valves?

WDV Series

One of the most problematic contaminants in your compressed air system is the condensate from your Compressors, Aftercoolers, Receivers, Filters, and Dryers. Condensate consists of compressor oil, condensed water, dirt, and other contaminants that are being introduced into the inlet of the compressor. Condensate, if not properly removed from the system, can be detrimental to your process and result in downtime and equipment failure.

That is why Wilkerson has developed the most comprehensive line of condensate drain valves to suit all your condensate removal applications. The following chart shows suggested uses for each type of valve.

X01/X02/XB3	WDV2	WDV3	WDV4
Mechanical Drain	**Demand Drain**	**Electric Timer Drain**	**Motorized Ball Valve Drain**
Receiver Tanks	Receiver Tanks	Receiver Tanks	Receiver Tanks
Separators	Separators	Separators	Deliquescent Dryers
Filters	Filters	Filters	
Drip Legs	Refrigerated Dryers	Refrigerated Dryers	
	Drip Legs	Drip Legs	



Compressed air drying system deliquescent dryer

Compressed air drying system refrigeration dryer

Compressed air drying system desiccant regenerating dryer

Mechanical Drain
X01/X02/XB3

The **X01/X02/XB3** Mechanical Drain is designed to automatically remove liquid, oil, and water contaminants from compressed air system components.

Liquid contaminants collected in the bowl cause the float mechanism to rise. When the liquid reaches a specific level, the float actuates the pilot drain orifice which allows line pressure to open the valve and evacuate the liquid/particulate contaminants. As the liquid level falls, the float closes the pilot drain orifice prior to the loss of any air from thesystem.

A manual override is provided as an option which allows for drainage of the system on demand. To drain, simply push up on the attachment. Pull attachment back down when draining is complete. The manual override only adds 1.3" to the total length of the unit.
(Available on the XB3 only)

Features & ***Benefits***

- No air loss — ***Energy efficient.***
- Efficient bowl size with large quiet zone — ***No re-entrainment of liquid back into the air stream.***
- Manual override option — ***Drain on demand.***
- Metal bowl — ***Compatible with all compressor lubricants and high pressure 200 psig (14 bar).***
- Float type operation — ***No electricity needed.***

X01

X02

Manual Override Option for XB3 only

Standard Specifications: Mechanical Drain

Inlet Pipe Size	1/2" NPT
Drain Connections	1/8" NPT
Drain Orifice	1/8"
Bowl Capacity	5 oz. & 32 oz.
Maximum Drain Rate	1.3 GPM & 2.5 GPM
Bowl	Zinc
Float	Plastic with Stainless Steel Internals
Manual Override	Brass

Operating Conditions

Maximum operating pressure	*200 psig*
Maximum fluid temperature	*175°F*

Ordering Information

[ ] [ ] [ ] — **0** **4** — [ ] [ ] **0**

[ ] [ ]
- **X01** (32 oz.)
- **X02** (5 oz.)
- **XB3** (5 oz.) w/manual override

[ ] [ ]
Options
- **0**=Standard Plastic Bowl
- **F**=Automatic Float Drain (X02)
- **M**=Metal Bowl

"Zero Air Loss" Electronic Demand Drain WDV2

With capacities from 425 scfm to 81000 scfm, the **WDV2** is designed to remove condensate from the system without any air loss. The valve uses an electronic sensor to detect the level of the condensate and signal the valve to open, discharging the liquid. The valve is open for a pre-set time and closes prior to any air loss.

An alarm function will warn the customer of a malfunction prior to re-entrainment of condensate into down stream piping, the drain continues to operate to clear the liquid from the bowl.

An integrate valve strainer comes standard on models WDV2-1700 to WDV2-81000 to provide efficient operation with low maintenance.

Features & ***Benefits***

- Zero air loss — ***zero energy loss.***
- Intelligent sensing system — ***operates with all levels of condensate from 100% oil to 100% water.***
- Maximum corrosion protection at no extra cost — ***standard models are suitable for all compressors including those with aggressive oil free condensate.***
- NEMA 4 Rating.
- Large inlet connections — ***prevent blockage and air locks when using single, top entry piping.***
- Suitable for use in tropical climates.
- Remote alarm facility indicates blockage, overflow and power loss.
- No pilot air required — ***unfiltered pilot air blocks easily, therefore direct operating valves are employed to eliminate problems and improve efficiency.***

WDV2-425

WDV2-850

Standard Specifications: Demand Drain

	425	850	1700	8200	81000
Drain Conn. inlet (NPT)	1/2"	1/2"	3/4"	3/4"	1"
Drain Conn. outlet (Hose)	3/8"	5/16"	1/2"	1/2"	1/2"
Drain Capacity	425 -81000 scfm				
Voltage AC - single phase					
425/850	110/230, 50/60Hz				
1700/81000	24/110/230, 50/60Hz				
Fuse Rating	3A				
Electrical Classification	Nema 4				

Operating Conditions

Maximum operating pressure	*232 psig*
Maximum fluid temperature	*150°F*

Ordering Information

WDV2 – ☐

Flow (scfm)

- **425**
- **850**
- **1700**
- **8200**
- **81000**

Note: *Drain capacities (scfm) are based on refrigerated dryer application. Decrease capacity by 50% if used on compressor aftercooler. Increase capacity 100% if used on filters and receivers downstream of refrigerant dryer.*

Electric Timed Drain WDV3

Wilkerson has developed two electrical timed drains: the *mini* and the *general*. The mini is ideal for smaller filters. The general is more suited for larger filters, refrigerated dryers, receiver tanks, and other general purpose applications.

Both drain valves feature state of the art electronic timers and brass valve body as standard. The general is also available in corrosion free stainless steel and high pressure.

Standard Specifications: Mini

Cycle time	1 to 120 minutes
Open time	2 seconds fixed
Power cord w/plug	6 ft. heavy duty
Seals	Viton
Enclosure	ABS plastic
Valve body	Brass
Power rating	4MA maximum
Voltage	24-240V AC/DC, 50/60 Hz

Standard Specifications: General

Cycle time	30 sec. to 45 min.
Open time	1/2 to 10 seconds
Power cord w/plug	6 ft. heavy duty
Seals	Viton
Enclosure	ABS plastic
Valve body	Brass/Stainless Steel
Power rating	4MA maximum
Voltage	24-240V AC/DC, 50/60Hz

Features & ***Benefits***

- Reliable operation — ***No down time***
- Solid state timer, surface mount technology vs. failure prone pin soldering — ***High reliability, no board shorting.***
- Nema 4 — ***Indoor/outdoor application***
- Manual push-to-test button (true micro-switch) — ***Reliable test on demand.***
- Class H coil insulation — ***Higher temperatures longer lasting.***
- Can be mounted in any position — ***Versatility in Installation.***
- UL, CSA, and CE certified vs. non-certified — ***World wide applications.***
- Direct acting valves — ***More positive closure - no clogging.***
- Dual surge protectors in timer vs. one or none in competitor's units — ***Continues to work even in adverse electrical conditions.***
- Indicating lights of valve open and closed — ***Visual indication of operation.***
- Plug prongs fastened to steel backing plate vs. glued to electronic board, causing board failure — ***High Reliability.***

Operating Conditions

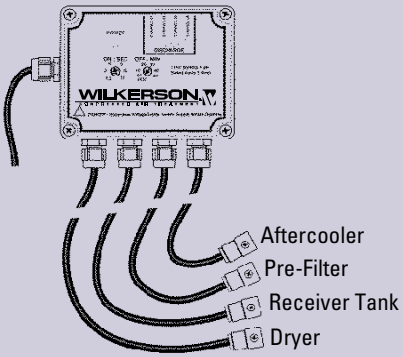
Maximum operating pressure — *230 psig — Standard*, *1200 psig — Optional*

Fluid temperature range — *33-190°F*

Ambient temperature range — *33-130°F*

WDV3-M/WDV3-G

Wilkerson® WDV3-P 4-Port



The Wilkerson "4-Port" automatically controls up to four independent solenoid drains. Wilkerson realizes the need to have Electric Timed Drain Valves operate at various intervals, therefore, the four connections are designed to operate independently with separate "open" (0-15 seconds) and "dwell" (1-50 minutes) control dials. The controller will not allow more than one drain to open at a time, thus it will not deplete the system of air pressure, or allow back flow due to differential pressure. (Check price sheet for availability of solenoid valves.)

Ordering Information

WDV3 — [ ][ ][ ][ ][ ][ ]

M=Mini
G=General
P=4-Port

Voltage*
1=120 V
2=240 V
3=12V DC
4=24V DC

Port Size †
2=1/4" NPT (general) (mini)
3=3/8" NPT (general)
4=1/2" NPT (general)

Valve Material
B=Brass
S=Stainless Steel (general only)

Pressur e
L=230 psig (16 bar)
H=1200 psig (80 bar)
(High pressure only available in WDV3-G 1/4" NPT port size)

Options
Blank =No Insolation Valve/Strainer
P=Insolation Valve/ Strainer
Inlet Port for all models is 1/2" NPT.
(Only available on low pressure models.)
Standard on mini models.

*Other voltages available upon request.
†BSP threaded ports are available upon request.
Valves are certified to UL and CSA standards by an Accredited Laborator y.
(120V and 240V units are fully UL listed.)

Motorized Ball Valve Drain WDV4

When pipe scale, contaminants from deliquescent dryers or other large particles present in your condensate keep plugging or holding open your common drain valve, it's time for the **WDV4** motorized ball drain valve from Wilkerson. This valve is designed to handle all types of contaminants without clogging or sticking open. It consists of a 1/2" full-flow ball valve with an electric timer/motor. The internal timer is adjustable from 4 minutes to 24 hours, and the valve will perform one full rotation in 7.5 seconds. Battery backup will provide continued operation in the event of a power failure.

Standard Specifications: Mini

Cycle time	4 min. - 24 hours
On time	7.5 seconds
Programmed settings	10
Valve	Nickel Plated Brass with Stainless Steel Ball
Connections	1/2" NPT (Other sizes available upon request)
Valve sealing	Viton O-rings with teflon seal
Voltage (Consult factory for other available voltages)	115/230V AC 50/60 Hz

Features & ***Benefits***

- Designed for heavy duty applications — ***Reliable-Long life***
- High pressure capabilities — ***Versatile applications***
- Microprocessor Based Electronics — ***High reliability***
- Weatherproof enclosure — ***Indoor/out-door operation***
- Battery back up protection against power failure (not available on competitors units) — ***Continuous operation.***
- Double O-ring seal on valve shaft vs. competitors with only one O-ring seal — ***No leak of condensate into electronics.***
- Corrosion resistant valve coating — ***Can be used in harsh environments like deliquescent dryers.***
- 10 programmable settings from 4 minutes to 24 hours vs. competitors dip switch selections from 6 to 10 hours — ***Versatility***
- Manual test button — ***On demand operation.***
- Valve open and program indicator — ***Visual indication of operation.***
- Anti-blockage system to protect motor — ***Motor will not burnout even under adverse conditions.***

WDV4

Operating Conditions

Maximum operating pressure	*300 psig @ 190°F* *500 psig @ 130°F* *600 psig @ 75°F*
Maximum fluid temperature	*33-190°F*
Maximum ambient temperature	*33-122°F*

Ordering Information

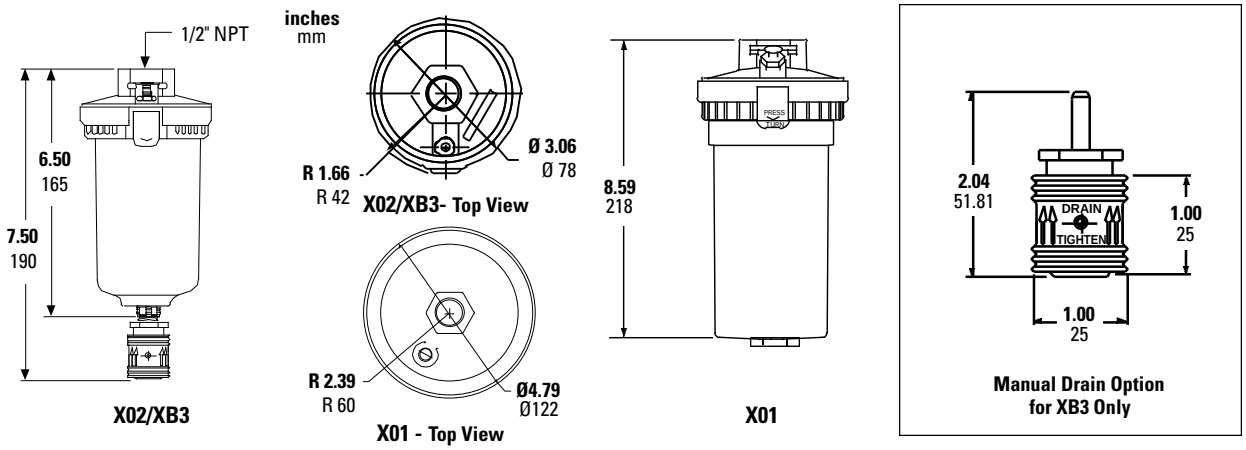
WDV4 — □ □

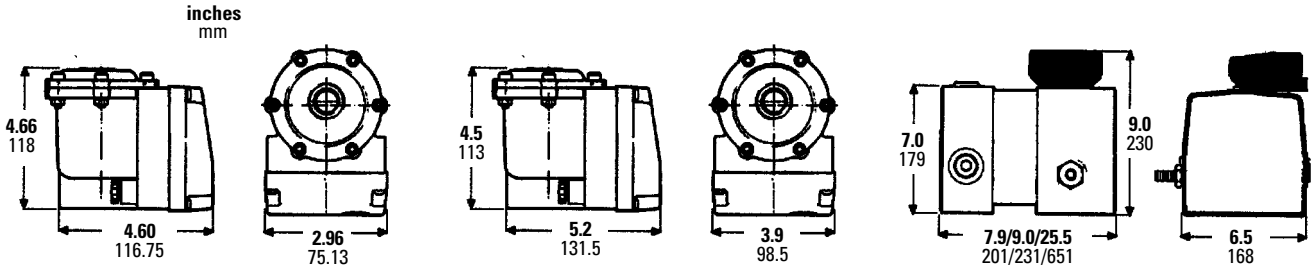
Voltage*
- **1**=115V, 50/60 Hz
- **2**=230V, 50/60 Hz

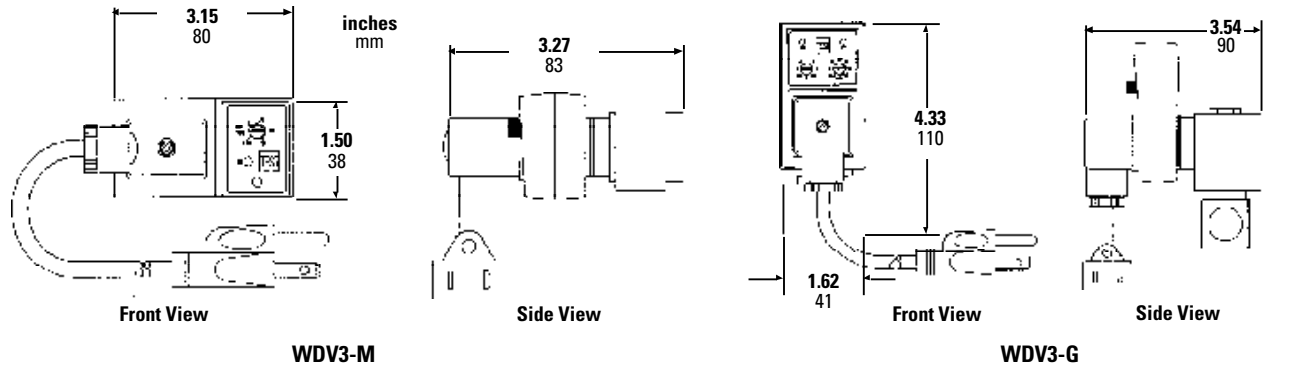
Port Size
- **4**=1/2"
- **6**=3/4"
- **8**=1"

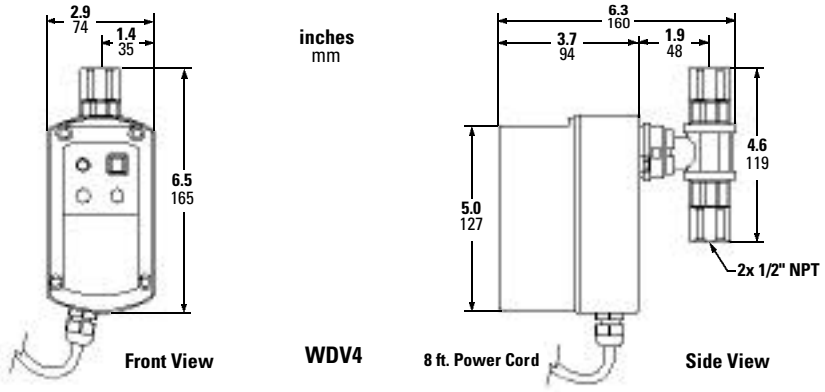
*Other voltages available upon request.

Dimensions


1/2" NPT
6.50
165
7.50
190
X02/XB3
inches
mm
R 1.66
R 42
Ø 3.06
Ø 78
X02/XB3- Top View
R 2.39
R 60
Ø4.79
Ø122
X01 - Top View
8.59
218
X01
2.04
51.81
DRAIN
TIGHTEN
1.00
25
1.00
25
Manual Drain Option
for XB3 Only


inches
mm
4.66
118
4.60
116.75
2.96
75.13
WDV2-425
4.5
113
5.2
131.5
3.9
98.5
WDV2-850
7.0
179
9.0
230
7.9/9.0/25.5
201/231/651
6.5
168
WDV2-1700/8200/81000


3.15
80
inches
mm
1.50
38
Front View
3.27
83
Side View
WDV3-M
4.33
110
1.62
41
Front View
3.54
90
Side View
WDV3-G


2.9
74
1.4
35
6.5
165
Front View
inches
mm
WDV4
6.3
160
3.7
94
1.9
48
4.6
119
5.0
127
2x 1/2" NPT
8 ft. Power Cord
Side View

What does a 50 year old company at the base of the *Colorado Rockies* know about cold, clean, dry, air…We live it, breathe it and build it…

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Other Innovative Wilkerson Products

WRD

Refrigerated Dryers
A full line of high quality refrigerated dryers with features and benefits unmatched by the competition. Designed to produce dew points as low as 35°F in compressed air' (10-2600 scfm).

WFH/WFA

High Efficiency Filters
A full line of industrial high efficiency filters to handle flows from 30 to 16,000 scfm. Special features include minimal clearance requirements for element removal and a unique push-fit, double O-ring seal.

DE0-DE5

Heatless Regenerative Dryers
The DE Series -40°F (-40°C) to -100°F (-73°C) pressure dew point Heatless Desiccant Twin Tower Dryer meets the ever increasing demand for ultra dry compressed air.

MSD

Membrane Dryers
The MSD Series Membrane Dryers are available in 12 different models that can deliver clean, dry compressed air at flow rates up to 21 scfm with a -4°F (-20°C) atmospheric dew point.

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