



NEW | DIMENSIONS SOLUTIONS

Pacto & Hygrobot

Zero air loss drain valves



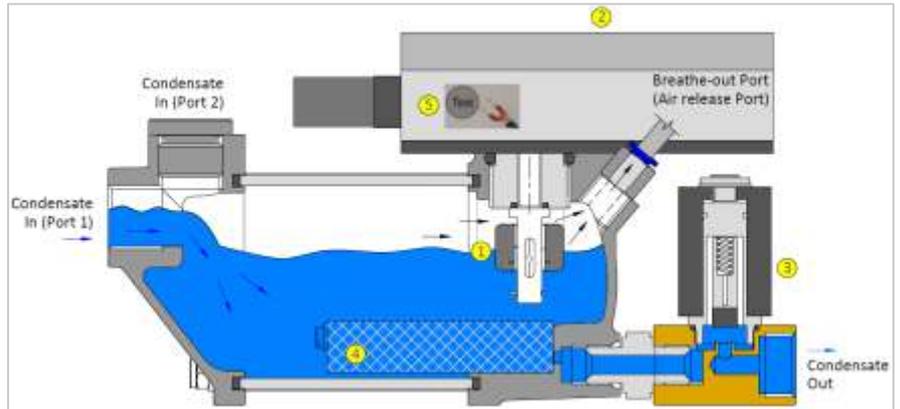
Silent



Ample Savings



Remote Monitoring



Operating principle

Condensate starts filling inside the drain valve. Air locked inside the drain valve is released through Breathe-out port. As the condensate level raises up, the Magnetic float (1) moves up and triggers the reed switch. Controller (2) receives the signal from reed switch and energize the Solenoid valve (3) for a short duration. Thus, collected condensate is drained out. Solid particles are retained over the surface of Strainer (4).

Key features

- 1. Stainless steel float switch**
Highly reliable. Reed switch housing is made of Stainless steel for smooth and nonstick operation.
- 2. E-Coated**
E-Coated die cast Aluminum offers excellent corrosion protection against harsh environment.
- 3. Strainer**
Large surface area Strainer extends maintenance interval.
- 4. Magnetic test switch**
Magnetically energized test switch offers reliable test function even in highly humid environment
- 5. 2 Mode of operation**
Zero loss mode
Timer mode

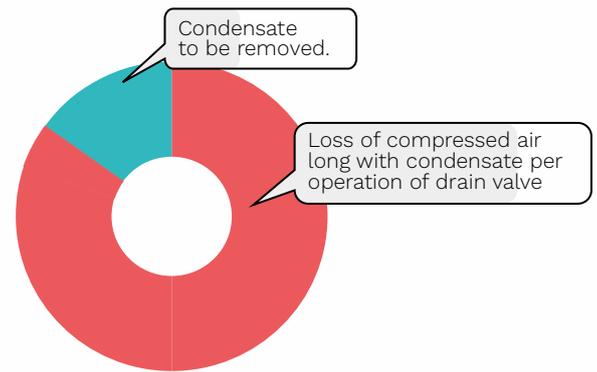
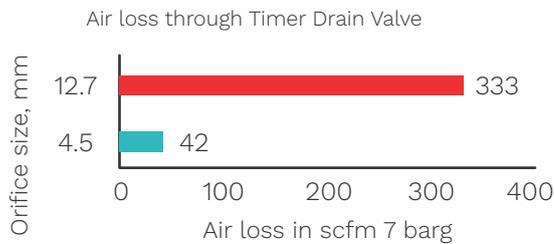


Smart Shift Technology

The Pacto shifts its operating mode from Level sensing to Timer mode when the collected dirt is not removed from the system during periodic maintenance, thus ensuring safe operation even at extreme condition. Eventually the system comes back to level sensing drain mode once the dirt is removed. As an additional safety, a Magnetic test switch is provided to verify the drain function at any time.

Cost of compressed air

Being most clean, safe and versatile form of energy source, Compressed air plays a prominent role in every energy utility segment accounting for around 10% of electrical energy. This results in CO₂ emissions of 3,100 kt/year. We are morally obliged to use compressed air energy wisely, Pacto supports us in reducing operational cost significantly.

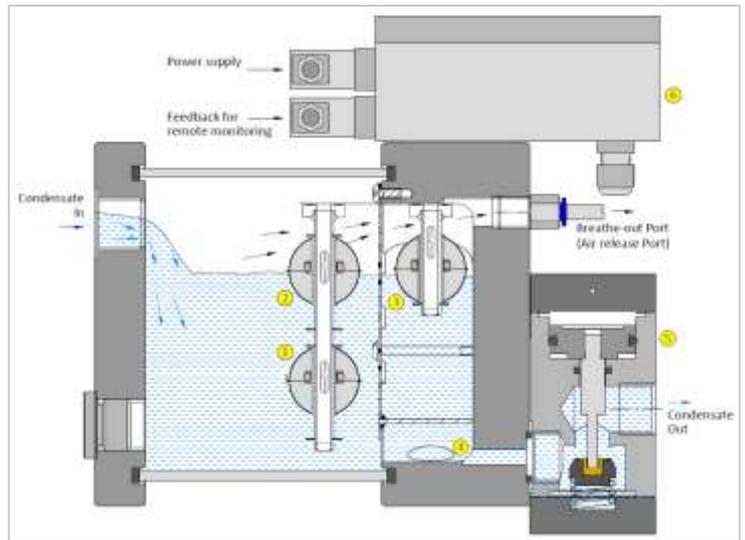


5000-liter compressed air receiver at 7 bar g
Visual representation of Air loss along with condensate through timer based drain valve.

Cost savings by Pacto / Hygrobot over Timer drain:

Description	Unit	Compact Timer drain	High discharge Timer drain
Orifice size	mm	4.5	12.7
Pressure	bar(g)	7	7
Temperature	°C	45	45
Drain valve opening (On) time	seconds	4	8
Drain valve closing (Off) time	minutes	2	10
Air loss through valve	cfm	41.83	333.21
Air loss through valve	cfs	0.697	5.55
Assume only 25% of load; Hence remaining 75% of opening (On) time, compressed air shall be lost.			
Air loss per cycle, 3sec (4 sec*0.75=3) & 6sec (8 sec*0.75=6)	Cubic foot	0.697*3=2.091	5.55*6=33.3
Drain valve opening cycles per hour	Cycles	60/2=30 (2 minutes once)	60/10=6 (10 minutes once)
Total air loss per hour	Cubic foot	2.091*30=62.73	33.3*6=199.8
Total air loss per minute	cfm	62.73/60=1.0455cfm	199.8/60=3.33
Power required to produce compressed air to compensate above loss (1 kw is spent to produce 6.5 cfm)	kw	1.0455/ 6.5=0.161	3.33/6.5=0.512
Unit cost of power	INR	8	8
Cost per hour	INR	0.161 *8=1.288	0.512 *8=4.096
Cost per year	INR	1.288 *24*365= 1,1283	4.096*24*365=35,881
Possible savings per annum by Pacto/Hygrobot	INR	11,283/-	35,881/-

Pactoplus



Operating principle

Condensate starts filling inside the drain valve. Air locked inside the drain valve is released through Breathe-out port..

As the condensate level raises up, the Magnetic float (1) moves up, and provides 'Ready' signal to controller.

Once the condensate level crosses the Magnetic float (2), it triggers Controller (6) and energize Discharge valve (5), thus discharge of condensate take place. Once the condensate level comes below the Magnetic float (1), it then deenergize the Discharge valve (5) and stops the discharge. Thus, only condensate is discharged and compressed air is preserved.

Key features

1. Smart controller - Truly intelligent

Enabled with BMS connectivity

3 Point Sensing

Intelligent detection of dirt pile up and changes its operation mode.

2. Stainless steel float switch

Highly reliable. Reed repeating housing is made of Stainless steel for smooth and nonstick operation.

3. Operating modes

Two Operating and One Alarm sensor for multi-mode operation.

4. E-Coated

Anodized die cast Aluminum offers excellent corrosion protection against harsh environment.

5. Sight Glass

Sight glass helps to ascertain proper functioning of drain valve.

6. Magnetic test switch

Magnetically energized test switch offers reliable test function even in highly humid environment



Smart Shift Technology

After triggering maintenance alert for removing monitoring Pactoplus shifts its operating mode from Level sensing to Timer mode when the collected dirt is not removed from the system during periodic maintenance, thus ensuring safe operation even at extreme condition. Eventually the system comes back to level sensing drain mode once the dirt is removed. As an additional safety, a Magnetic test switch is provided to verify the drain function at any time.

Pacto – The Zero air loss drain valve – Product Range:

Product image							
Model	Pacto-05	Pacto-20		Pacto-40	Pactoplus-20		Pactoplus-40
Valve Orifice, mm	4.5	12.5					
Pressure, bar g	16 (Refer temperature also)						
Temperature, °C	1.5 to 40 (for up to 16 bar g); 1.5 to 50 (for up to 14 bar g)						
Rated capacity, lph	47	128	170	410	128	170	410
After cooler / MS, cfm	465	1270	1700	4000	1270	1700	4000
Air receiver, litre	2000	7500	10000	24000	7500	10000	24000
Pre-filter, cfm	4650	12800	17000	41000	12800	17000	41000
Refrigeration air dryer, cfm	1600	6000	8000	20000	6000	8000	20000
Dimension, (LxDxH) mm	250 x 110 x 125	270 x 225 x 205		500 x 225 x 205	270 x 225 x 220		500 x 225 x 220
Weight, kg	1.6	6.5		8.3	6.6		8.4
Body material	Aluminium & Brass		Aluminium				
Seals	Nitrile & FKM		Nitrile				
In/Out size, BSPP(F)	1/2"	1/2"	3/4" 1"	1"	1/2"	3/4" 1"	1"
Electrical connection	DIN 43650-C						
Ingress protection	IP65						

Pressure variants

B: 10 bar g;
 D: 16 bar g;
 Please contact factory
 for pressure above 16 bar g.

Voltage Variants

1: 24V DC;
 2: 110V DC;
 4: 110V to 230V AC
 Receiver capacity is arrived
 based on 6 litre per cfm.

Nomenclature:

Pacto-204B6
 Pacto: Series name
 20: Capacity identifier
 4: 230V AC
 D: 10 bar g
 6: Connection size, 6/8=3/4



Hygrobot

for Heavily Contaminated condensation removal



Key features



No electric power

No electric power is required. Can be installed in open space. Stainless steel float sensed, magnetically coupled, pneumatically operated valve. Electricity has no role to play. Simple mechanism, no need for special skill to service. Need not to worry about Heavy Rain or Direct sunlight.



Never clogging

Unlike poppet / diaphragm valve, Full bore ball valve has enough passage to large size scale and rust, making it ideal for condensate handling. No need for strainer and its maintenance.



Suitable for Hazardous zone

No solenoid valve; No electrical energy required for its life time; Zero Power cost. Suitable for Explosive area.

Operating principle

Condensate gets collected inside the container. The float lever is lifted up corresponding to the level of the condensate in the container. Once the Condensate level reaches the required level, the float lever opens the pilot air.

This pilot air actuates the Pneumatic cylinder. The rod of the pneumatic cylinder turns the lever of the ball valve and thus opening it. The condensate drains out.

Once the condensate is drained out, the float lever will return to its original position and block the pilot air. The spring inside the pneumatic cylinder will pull the lever of the ball valve back to its original position; closes the valve and avoiding air loss.

Description	Hygrobot-06
Discharge capacity	170 lph
Max. operating pressure	10.0 bar g
Max. Operating temp.	60°C
Connection in/out	1/2" BSPP (F)
Breathing Port	3/8" BSPP (F) / 10mm OD tube
Pilot port	1/8" BSPP (F) / 6mm OD tube
Weight	8 kg
Width (W)	365mm
Depth (D)	255mm
Height (H)	225mm
Sizing information	
After cooler	1700cfm
Pre-filter	10000cfm
Air receiver	17000cfm
Refrigeration air dryer	8000cfm

Manufactured and marketed by

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