

## Ultramat UFM-T Condensate Drains



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Trust Donaldson to deliver a complete range of compressed air purification solutions that improve air quality throughout your plant—from compressor rooms to all points of use. With over 30 years of expertise in compressed air filtration and separation, Donaldson manufactures a complete line of high performance Ultramat UFM-T zero-loss condensate drains that eliminate compressed air loss, dramatically improve energy efficiency and increase cost savings.



**Ultramat Zero-Loss Condensate Drains** Optimization of compressed air systems can provide energy efficiency improvements of 20 to 50 percent. One contributor to the inefficient use of compressed air, which can increase cost, is the condensate drain. Liquid condensate, which naturally accumulates in various spots within a compressed air system, must be drained frequently or serious consequences can result to the compressed air system itself, downstream hardware and finished product.

Typical drains that operate on a timer allow compressed air to vent from the system with every cycle. Also, timer-operated drains will open regardless of how much, or how little, condensate has collected between cycles. In addition, float drains, which are supposed to operate without air loss, are subject to fouling and allow compressed air to bleed out of the system even when the float is resting in its seat.

The Solution is an Ultramat UFM-T Zero-Loss Condensate drain.

## Airloss Calculation

Pressure (bar)	Outlet (mm)				
	0.4	0.8	1.6	3.2	6.4
1	3	12	47	190	760
2	4.5	18	71	286	1150
3	6	24	95	382	1580
4	7.5	30	120	478	1900
5	8.5	34	135	543	2170
6	10	42	167	670	2700
7	11.5	46	184	735	2950
8	13.5	54	215	860	3450

Airloss in l/min

## Example of Costs Saving

### Opening time:

= 1 sec per minute = 1 min per hour = 24 mins per day  
= 8760 mins per year of airloss

### Airloss:

= 8760 mins x 0.735 m<sup>3</sup>/min = 6438.6m<sup>3</sup>/year

### Costs:

= 6438.6m<sup>3</sup>/year x USD 0.036/m<sup>3</sup> = USD 231.78/year

- Ultramat UFM-T zero-loss drains open only when necessary and close before any loss of compressed air occurs.
- Unique internal reservoir and flow channels reduce the emulsification of condensate, minimizing fouling of the drain seat and allowing more thorough processing at downstream oil/water separator.
- Compact design allows installation in restricted space applications.
- Rigid corrosion-resistant housing made from glass fibre reinforced plastic.
- Ergonomic design with rounded, clearly visible control panel.
- Nearly silent operation.
- External alarm contacts.
- Easily accessible push-to-test button.
- Condensate inlet can be from the top or from the rear of the drain.
- Electronically controlled and self-monitored for operation faults.
- Condensate level sensor requires no moving parts.
- Preinstalled power cable and voltage range from 24 V to 230 V without additional potential transformers.
- Ultramat zero-loss condensate drains can pay for themselves in less than six months.

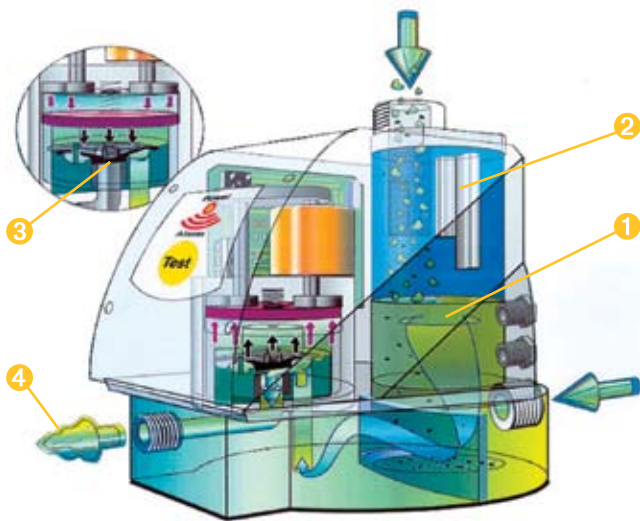
Rear view with condensate entry from behind



### Applications

Ultramat zero-loss, electronically controlled condensate drains are used at many points to ensure condensate drainage without compressed air loss.

- On the compressor itself
- On accumulator/surge tanks
- On coarse coalescing prefilters before refrigerated and desiccant dryers
- At compressor aftercoolers
- On refrigerated dryer cold-points or outlets
- On fine coalescing prefilters before refrigerated and desiccant dryers

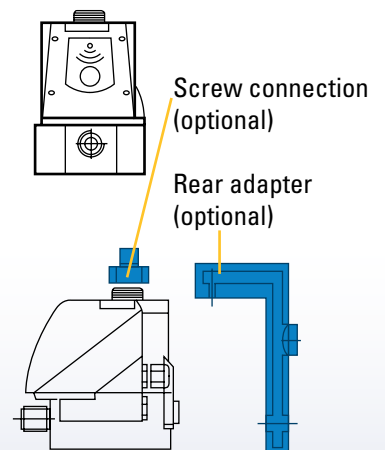


- 1) Condensate collects in the drain, the diaphragm is closed by the system pressure.
- 2) The condensate reaches the sensor.
- 3) As soon as the condensate reaches the sensor, the diaphragm opens and the condensate is ejected by the system pressure. The diaphragm then closes before the air can escape.
- 4) Condensate purification occurs with oil/water separator UFS-SP.

### Technical Data Ultramat UFM-T

Type	Power Supply	Alarm Contact	Protection	Power Consumption	
				without heater	with heater
T05	24 - 230 VDC 80 - 230 VAC 50-60 Hz	only T05 SP	IP 65	7 W	*/*
T1		300 VDC 247 VAC 0.092 A		5 W	25 W
T10					
T20					
T100	24 V DC 110 - 230 VAC 50-60 Hz				*/*
T20 HP					

Type	Pressure Range (bar)	Capacities (Nm <sup>3</sup> / min)		
		Compressor	Dryer	Filter
T05	0.8-17.2	5	30 kW	50
T1	0.8-16	10	60kW	100
T10		20	120 kW	200
T20		100	600 kW	1000
T100		20	120 kW	40
T20 HP	1.2-40			



Donaldson offers a wide variety of solutions to reduce your energy costs, improve your productivity, guarantee production quality and help preserve the environment.

### PRODUCTS

- Activated carbon filters
- Adsorption dryers
- Breathing-air units
- Cartridge filters
- Chillers
- Condensate drains
- Coolers
- Cyclone separators
- Demisters
- Disposable filters
- Elements
- Emulsion separators
- Filters
- Fine filters
- Filter housing
- High-performance filters
- High-pressure filters
- Maintenance units
- Medical vacuum filters
- Membrane dryers
- Micro filters
- Oil/vapour absorbers
- Oil/water separators
- Oil/water separation systems
- Pocket filters
- Pre-filters
- Pre-separators
- Process filter elements
- Process filter housing
- Processing plants
- Pure gas filters
- Refrigeration compressed air dryers
- Silicon-free filters
- Steam filters
- Sterile air-conditioning plants
- Sterile filters
- Sub-micro filters
- Systems engineering
- System solution
- Vacuum filters
- Vent filters

### SERVICES

- Air Audit – Detailed analysis with optimisation action plan
- Air flow measurement
- Air Performance – Optimisation of compressed air networks
- Air Survey – Analysis of compressed air systems
- Condensate sampling
- Dew point measurement
- Differential pressure measurement
- Integrity tests
- Leak localisation
- Maintenance agreement
- Oil-aerosol measurement
- Service agreement



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