

Pipeline ancillaries

**STEAM & CONDENSATE
MANAGEMENT SOLUTIONS**



First for Steam Solutions

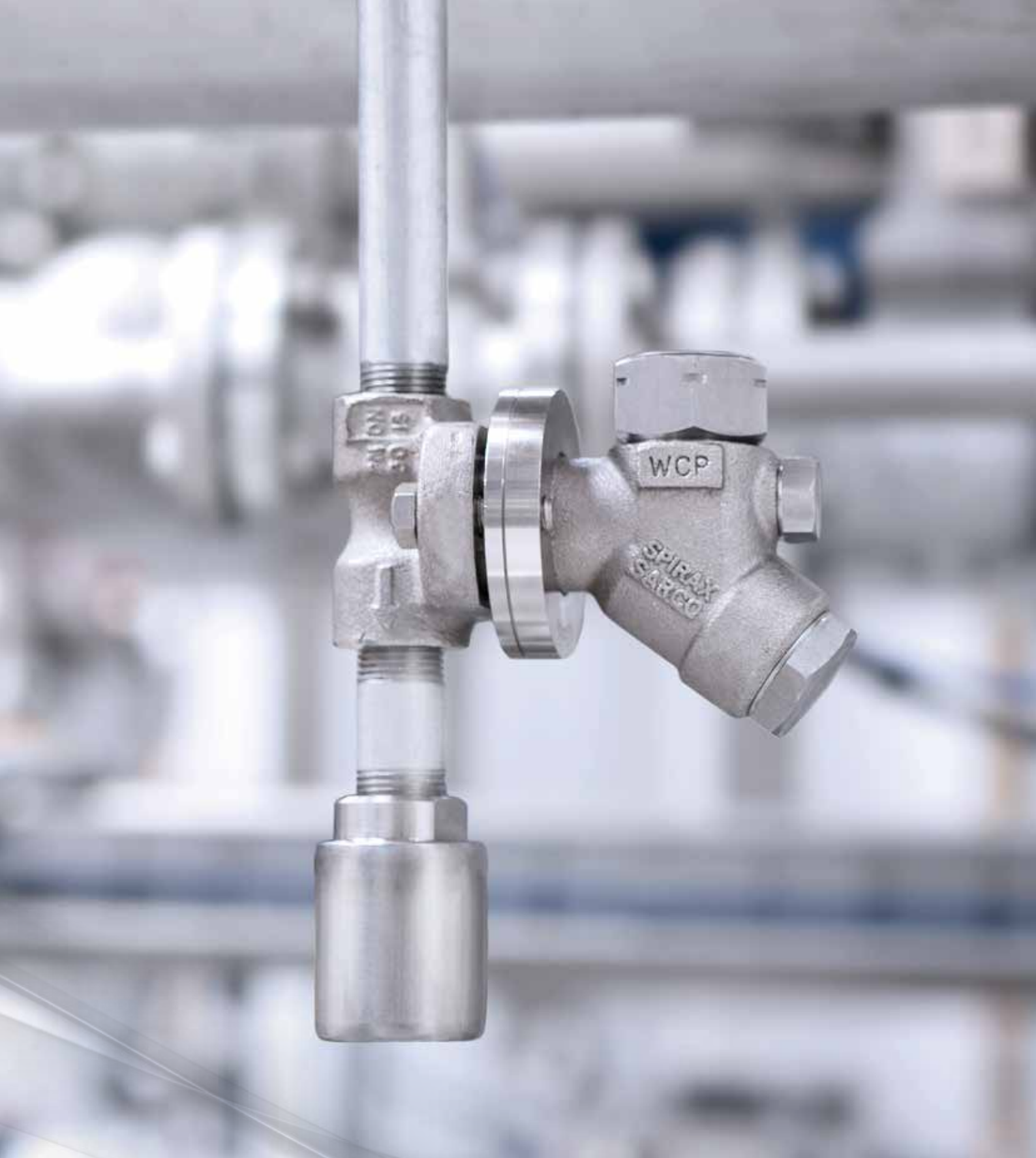
EXPERTISE | SOLUTIONS | SUSTAINABILITY

spirax
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Our aim is to help you find areas for improving efficiency. Whether it's process improvements such as air venting or liquid draining, or identifying ways to help you keep a watchful eye on your system performance, we know that implementing the correct ancillary products is crucial.

We will work with you to identify where ancillaries can help to keep your processes and systems running at peak operating efficiency. Even the smallest ancillary products can make a big difference in your system as a whole - they work together to help maximise energy savings and keep costs down.

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Air vents

Effective air venting offers a number of benefits and helps avoid conditions which can lead to problems in steam and liquid systems. Air venting improves heat transfer, saving energy and maintenance time, and reducing the possibility of corrosion.

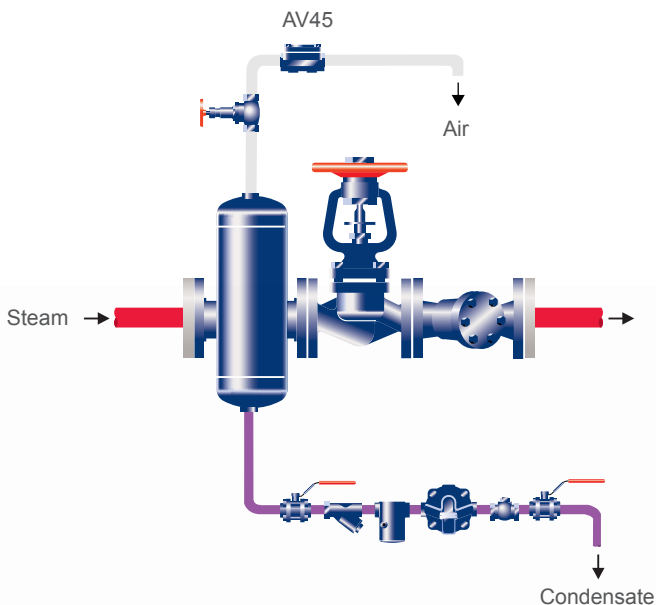
Benefits of air venting

- Helps reduce maintenance and downtime costs
- An efficient system helps maintain high product quality
- Start-up time is reduced so system is operational in a shorter time.



AV13

Venting a separator on a steam main



AVC32

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Thermostatic air vents for steam systems

The prime objective of a steam plant is to transfer heat from the steam to the product being heated. However, air is a major barrier to heat transfer; its presence on a heat transfer surface causes cold spots and at worst can prevent heat transfer taking place at all. This is why rapid removal of air from the steam system is essential to manufacturing efficiency.

Range and options

Material			Brass	Carbon steel	Stainless steel		Alloy steel
Model			AV13	AVC32	AVS32	AVM7	AV45
Body design rating			PN16	PN40	PN40	PN10	PN63
Sizes	DN8	1/4"				•	
	DN10	3/8"	•			•	
	DN15	1/2"	•	•	•	•	•
	DN20	3/4"	•	•	•	•	•
	DN25	1"		•	•	•	•
Pipeline connections	Screwed		•	•	•	•	•
	Socket weld			•	•		•
	Butt weld			•	•		•
	Tube					•	
	Sanitary clamp					•	
	PN40			•	•		
	PN64						•
	ASME 150			•	•		
	ASME 300			•	•		•
	ASME 600						•
JIS/KS 10			•	•			
JIS/KS 20			•	•			
JIS/KS 30						•	
Integral strainer				•	•		•
Optional chrome plated finish			•				

For full range and options please refer to relevant technical information literature

Automatic air vents for liquid systems

Similar to a steam system, a build-up of air and gas in a liquid system will cause problems. Air locks inhibit the filling of the system or the priming of pumps, and corrosion will lead to maintenance issues. All these problems will affect the performance of the system and will have negative effects on the production process. Venting this troublesome air essentially helps keep the system running efficiently, avoiding downtime and maintenance costs.

Range and options

Material		Brass					Cast iron			
Model		AE30	AE30A	AE30B	AE30C	AE30LV	AE30LVA	AE 10S	AE 14	AE 14E
Sizes	½" inlet ¼" outlet	•	•	•	•	•	•			
	¾" inlet ½" outlet									
	DN15 - ½"								•	•
	DN20 - ¾"							•	•	•
Connections	DN25 - 1"									
	Screwed	•	•	•	•	•	•	•	•	•
	Socket weld									
Valve heads	Flanged									
	Viton	•	•	•	•	•	•		•	
	EPDM	•	•	•	•					
Pressure / temperature limits	Stainless steel							•		
	Maximum differential pressure	8 bar	8 bar	8 bar	8 bar	3 bar	3 bar	6 bar	14 bar	14 bar
Options	Maximum operating temperature	110°C	110°C	110°C	110°C	110°C	110°C	200°C	200°C	127°C
	Check valve		•		•		•			
	Stop valve			•	•					
	Screen									
Minimum specific gravity		0.926	0.926	0.926	0.926	0.7	0.7	0.6	0.6	0.6

For full range and options please refer to relevant technical information literature



AV30



AE14

SG iron			Carbon steel		Stainless steel				Austenitic stainless steel
AE 14S	AE 14SV	AE 14ESV	AE44	AE 44S	AE 36A	AES 14	AES 14E	AES 14S	AE 50S
					•				
									•
•	•	•	•	•		•	•	•	
•	•	•	•	•		•	•	•	
				•					
•	•	•			•	•	•	•	•
			•	•		•	•	•	
	•		•			•			
		•			•		•		
•				•				•	•
14 bar	14 bar	14 bar	21 bar	3.5 bar to 21 bar	8 bar	14 bar	14 bar	14 bar	14 bar
250°C	200°C	127°C	200°C	400°C	110°C	200°C	127°C	225°C	427°C
					•				
	•	•							
						•	•	•	
0.6	0.6	0.6	0.75	0.75	0.926	0.75	0.75	0.75	0.65

Liquid drainers for air and gas systems

Liquid drainers are an important part of any air or gas system; they are a key component for keeping the system functioning and help to keep operating costs down.

The presence of water is destructive to most gas and air systems; it damages essential equipment which leads to increased maintenance and may eventually result in system downtime in order for repairs to be carried out. The systematic removal of unwanted water can help to avoid these issues and keep your system in service.

We offer liquid drainers for a wide range of process applications.

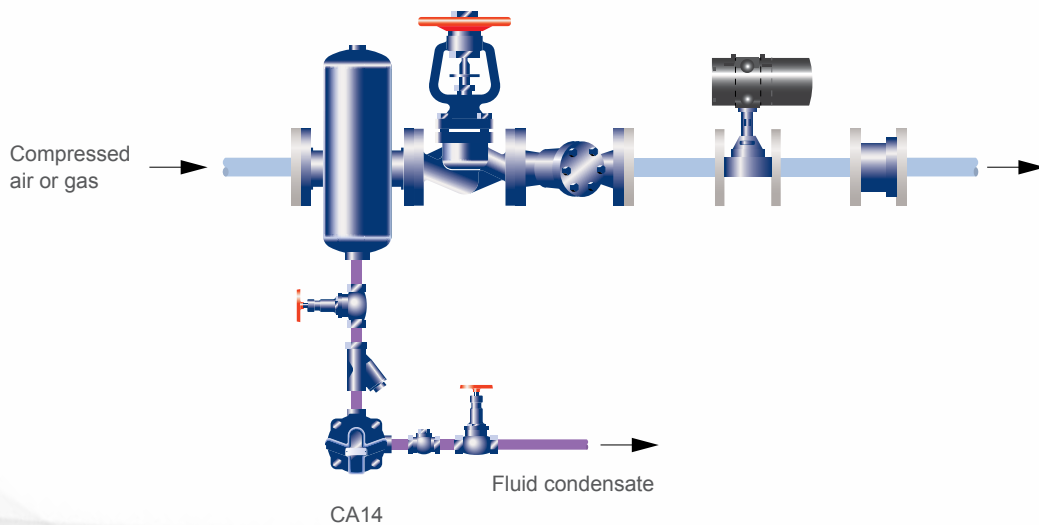
Ball float type liquid drainer

Our range of ball float liquid drainers are designed to be extremely robust and resistant to the damaging effects of waterhammer which makes them an ideal choice for the instantaneous removal of liquid from any application within your plant.



CA14S

Separator drainage on air and gas lines

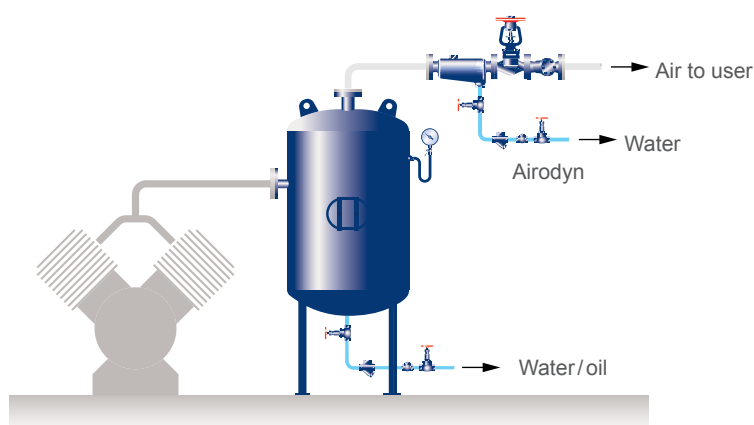


Disc type liquid drainer

Our disc type liquid drainer works using the proven principal of thermodynamics. With minimal moving parts it is ideally suited to the arduous conditions found in some air and gas systems and is particularly suited to oily systems which can often be problematic to drain from.

Having a compact body it can be installed within confined spaces and with a small internal volume has a reduced risk of freezing-damage when compared to other liquid drainers.

Compressed air generation and storage



Range and options

Material	Cast iron	SG iron		Carbon steel		Stainless steel	Austenitic stainless steel			
Model	CA10S	CA14	CA14S	CA44	CA44S	Airodyn	CAS14	CAS14S	CA46	CA46S
Body design rating	PN16	PN16	PN16	PN40	PN40	PN63	PN25	PN25	PN40	PN40
Ball float type	•	•	•	•	•		•	•	•	•
Disc type						•				
Size	DN15 1/2"		•	•	•	•	•	•	•	•
	DN20 3/4"	•	•	•	•	•	•	•	•	•
	DN25 1"		Flanged only	•		•		•		•
	DN40 1 1/2"			•		•				•
	DN50 2"			•		•				•
Connections	Screwed	•	•	•	1" only	•	•	•		
	Flanged		•	•	•				•	•
	Socket weld				1" only		•	•		
Valve head	Viton		•	•			•		•	
	Stainless steel	•		•	•			•		•
Integral inlet/balance line		Angled version only	Angled version only							
Separate balance line	•	Flanged only	Flanged only	•	•		•	•	•	•
Drain cock tapping option	•			•					•	•
Integral strainer						•	Optional	Optional		

For full range and options please refer to relevant technical information literature

Sight glasses

Using a sight glass is a practical and certain way to check flow through the pipeline.

Simply having a 'window' into the process allows you to see if the fluid is flowing correctly or not, this can give an indication of the performance of valves, strainers, steam traps and other equipment needed for plant efficiency.

We offer a wide range of sight glasses in a choice of materials, connections and sizes for most industries and applications.



Range and options

Material			Bronze		Brass			SG iron	Carbon steel	Stainless steel	
Model			Sight check	Double window sight glass	Double window sight glass	Single window sight glass	SG13	SG253	SGC40	SGS40	
Body design rating			PN3.6	PN5	PN5	PN5	PN16	PN25/ASME 150	PN40	PN40	
Size	DN10	3/8"				•					
	DN15	1/2"	•		•	•	•	•	•	•	
	DN20	3/4"	•		•	•	•	•	•	•	
	DN25	1"	•		•	•	•	•	•	•	
	DN32	1 1/4"		•				•	•	•	
	DN40	1 1/2"		•				•	•	•	
	DN50	2"		•				•	•	•	
	DN65	2 1/2"							•	•	
	DN80	3"							•	•	
	DN100	4"							•	•	
Pipeline connections	Screwed		•	•	•	•	•		•	•	
	Socket weld								•	•	
	Sanitary clamp								•	•	
	Flanged	PN25							•		
		PN40								•	•
		ASME 150							•	•	•
	ASME 300								•	•	•
	JIS/KS 10							•	•	•	•
JIS/KS 20							•	•	•	•	
Optional mica insert									•	•	
Optional flow indicator									•	•	

For full range and options please refer to relevant technical information literature

Vacuum breakers

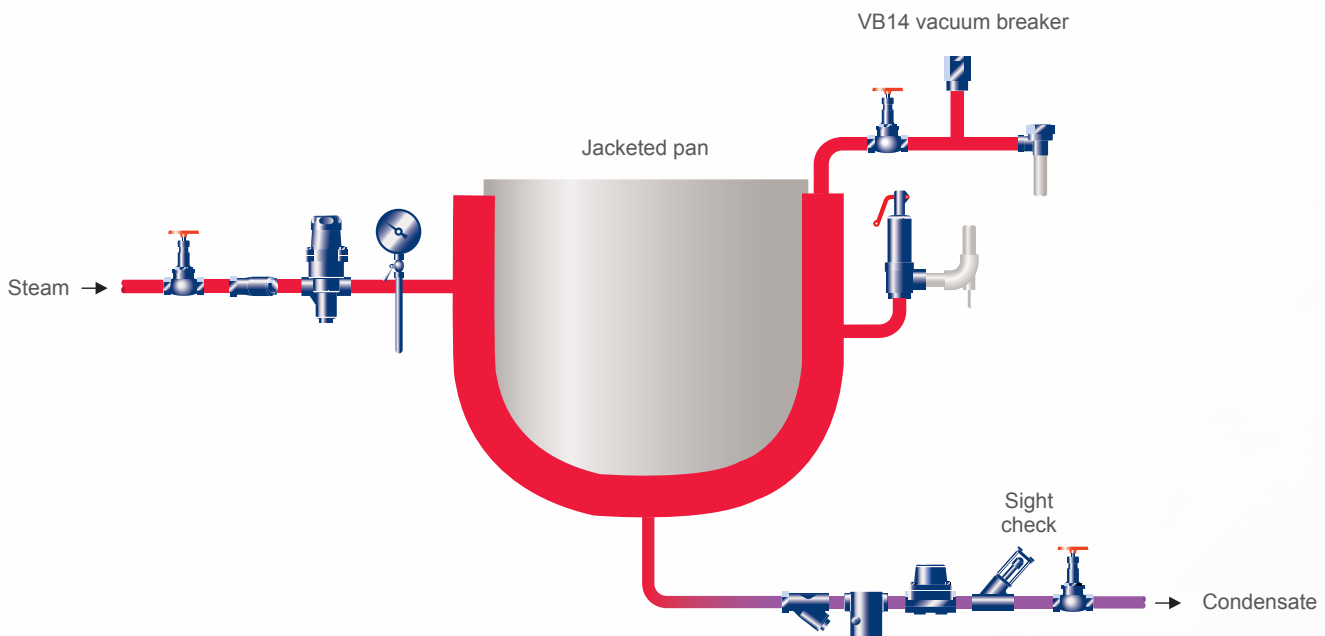
Our vacuum breakers are designed to protect plant and process equipment against the effects of vacuum, and at the same time allow condensate to drain.

One of the most common applications of a vacuum breaker is on process equipment such as jacketed pans and heat exchangers. When these items are turned off they still contain a certain amount of steam. The steam condenses as the vessel cools down and since condensate occupies a much smaller volume than steam, vacuum conditions are generated. The vacuum can damage the plant making it necessary to install a vacuum breaker in the steam inlet to such equipment.



VB14

Typical application using a sight check valve and a vacuum breaker



Diffusers

Using a diffuser delivers a number of important benefits on installations where steam traps drain to atmosphere from open ended pipes.

Hot condensate discharging and flash steam can present a hazard to passers-by but the risks can be minimised by reducing the severity of the discharge. By fitting a diffuser (DF1) to the end of the pipe the ferocity of discharge is greatly reduced and typically sound levels can be cut by up to 80%.

A diffuser can also help where steam traps are discharging into a condensate return line. If the pressure difference between the steam and condensate mains is very high, then a diffuser (DF2) will help to cushion the discharge reducing both erosion and noise.

Range and options

Material		Stainless steel	
Model		DF1	DF2
Body design rating		PN63	PN40
Size	DN15	1/2"	Inlet only
	DN20	3/4"	Inlet and outlet
Pipeline connections	Screwed	Inlet only	Inlet and outlet
	Socket weld	Inlet only	Inlet and outlet



For full range and options please refer to relevant technical information literature

Blowdown valves

BDV1 and BDV2

Our blowdown valves (BDV's) are designed to be used for drain, blowdown, purge and vent and depressurisation of pipework or products. The BDV1 provides discharge straight through the valve and the BDV2 provides side connection discharge, to ensure discharge is taken to a suitable drain point.

Applications for BDV's:

- Depressurisation or purge and vent – BDV is fitted to the pipe or product to depressurise the pipeline upstream or downstream of the product
- Drain - BDV is fitted to the bottom of the pipe or product for draining
- Blowdown - BDV is fitted to the strainer cap or bottom of the dirt pocket for the removal of dirt
- Trap test - BDV is fitted to a pipeline connector to test correct operation of steam trap.

First for Steam Solutions

Hosedown station

Our hosedown station is a unique single source solution for washing down.

The hosedown station has been designed to provide hot water economically by blending steam and cold water quickly to the required user temperature.

Hosedown is a requirement for many industries and processes. Certain processes and environments are naturally difficult to contain and may create spillages. These spillages are not only untidy, they may cause a health hazard if they begin to harbour bacteria (food spillages are a good example of where this may occur). Alternatively, spillages can pose a threat to safety if the surface becomes slippery.

In other cases it may be necessary to clean out tanks or vats after the process is completed and the vessel is drained.

Additionally, floors, walls and vehicles may simply become dirty over time and require periodic cleaning. An ideal solution is to have convenient hot water available in large quantities, which can be jet-sprayed over a wide area. One of the best ways to do this is to install a complete hosedown system. Hot water is produced on demand by blending cold water with steam. This is then supplied through a hose and a gun.

Typical applications for 1/2" and 3/4" Hosedown Stations:

- Walls and floors
- Vehicles
- Process vessels and other equipment
- Food trays
- Bottle lines

Where permanently piped hot water is required in large quantities to fill tanks and vessels, hot water can be produced with a steam/water mixing station and supplied to the tank without the need for a hose or a gun.

Typical applications for 1" and 1 1/2" permanently piped installations:

Filling of:

- Brewing vats
- Animal and poultry scald tanks
- Chemical plating tanks

Typical industries for Hosedown Station:

- Food and beverages
- Abattoirs
- Breweries
- Dairies
- Hospital
- Pharmaceuticals
- Metal finishers
- Chemical industries

Each hosedown station is supplied with isolation valves, check valves, union joints, strainers, thermometer and temperature cut-out valve. The 1/2" and 3/4" sized stations can be supplied with optional high quality dairy hose, hosedown gun and a stainless steel hose rack.



Pressure gauge sets

Pressure gauges, syphons and cocks.

Measuring pressure is a critical task in most plant environments.

There are certain situations when the installation of a pressure gauge is essential, for example:

- **Upstream and downstream of a pressure reducing valve** - to monitor the integrity of the steam supply and to be able to set and monitor the downstream pressure. Variations in the downstream pressure can lead to reduced plant productivity and product quality. Variations in the downstream pressure may also indicate problems with the pressure reducing valve.
- **On blowdown vessels** - a pressure gauge is used to check the vessel pressure during blowdown. This improves safety as a higher pressure than normal would give an early indication of pipework blockage.
- **Flash steam vessels** - to monitor the flash steam pressure and check the vessel can withstand it. The use of a pressure gauge often helps the user to interpret the performance of equipment and identify any problems.



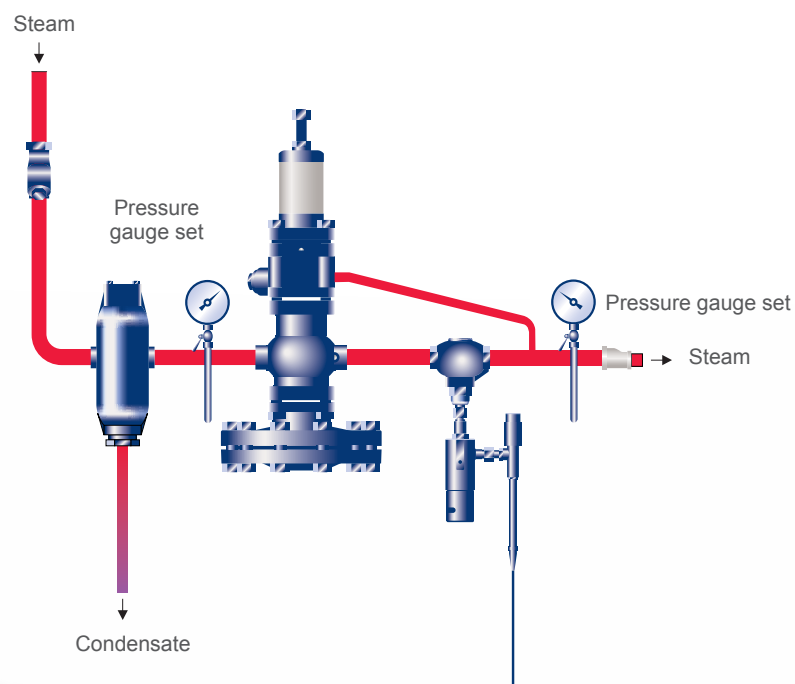
Pressure gauges are often liquid filled. This protects the internal mechanism against damage from severe vibration and to keep out the ambient corrosives and condensation. It is common practice to ensure the gauge is fitted with a gauge cock to assist when calibration or maintenance is required. When used on a steam system, gauges must be protected from heat by the use of a syphon tube. The two most common forms of syphon tube are the 'U' and ring types. The ring tube is used on horizontal pipelines where there is sufficient space above the pipe, and the 'U' type is used when mounting the gauge on a vertical pipeline or where space is limited.

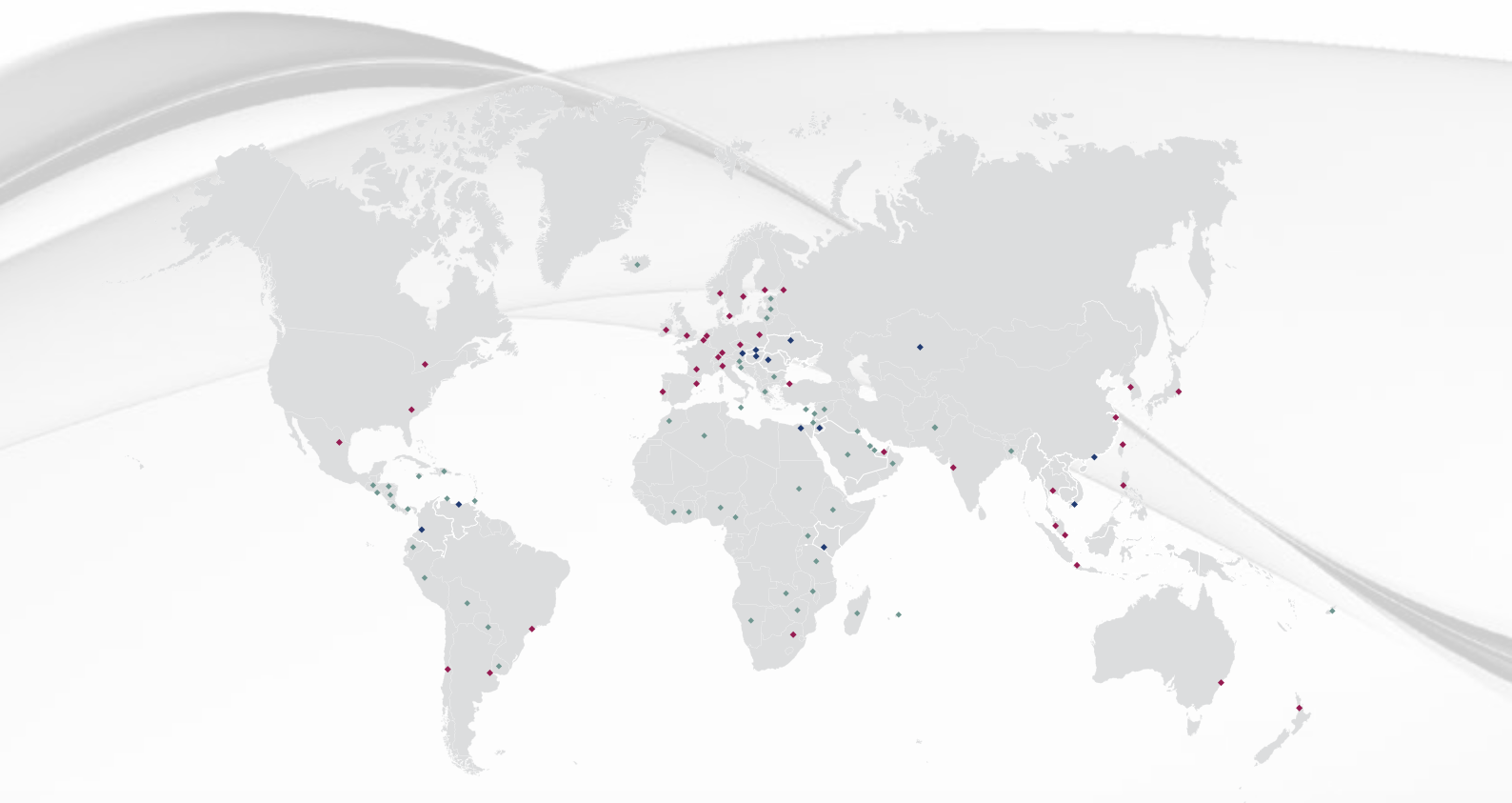
Range and options

Product	Connections			Pressure range
	BSP	NPT	Sanitary clamp	
Pressure gauge	3/8" male	1/2" male		-1 to 40 bar g (30" Hg to 580 psi)
Hygienic pressure gauge			1 1/2"	0 - 10 bar
Gauge cock	3/8" female	1/2" female		
Ring/ 'U' syphon	3/8" male	1/2" male		

For full range and options please refer to relevant technical information literature

Typical application using pressure gauges





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