

TLV[®]

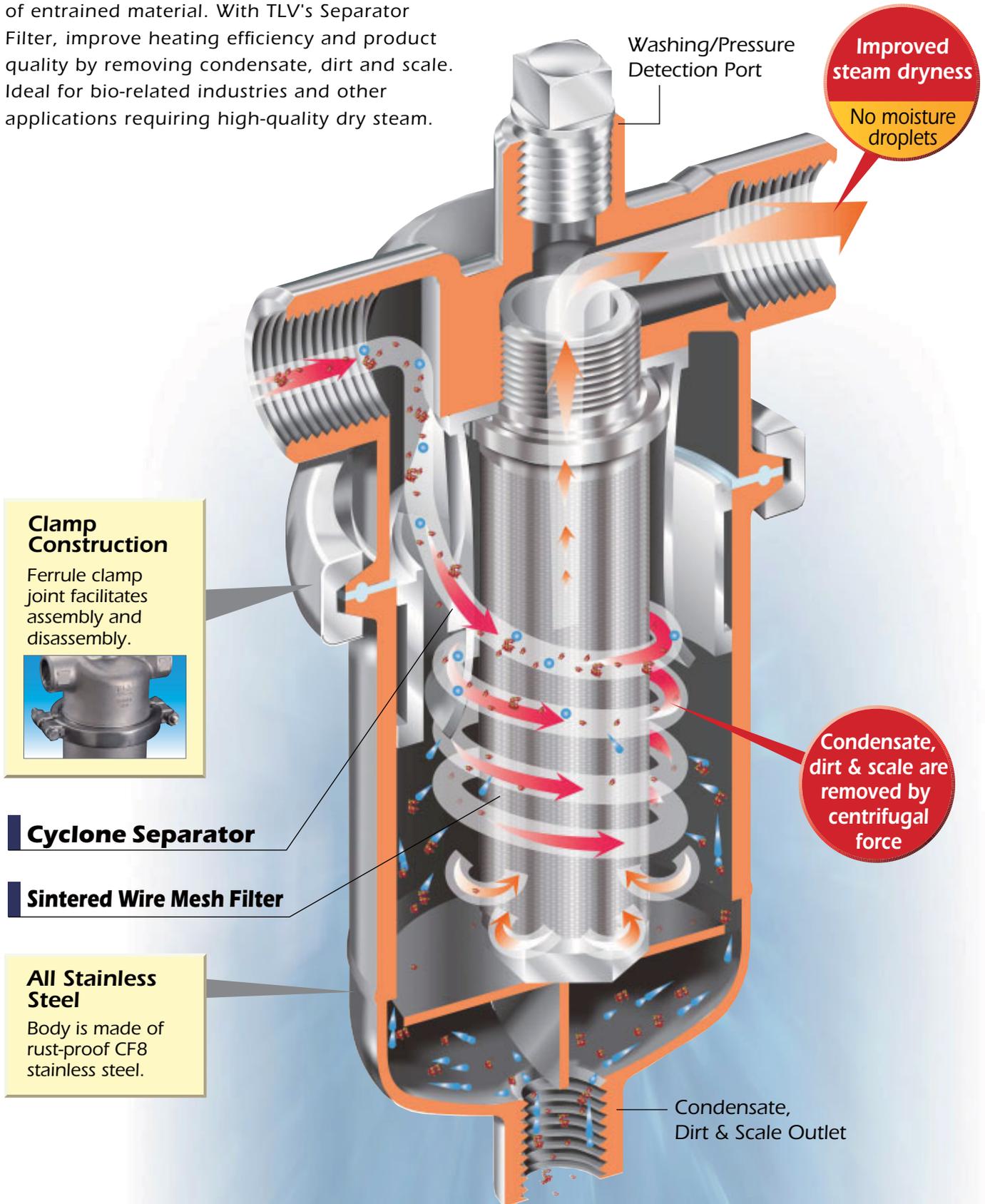
SEPARATOR FILTER

SF1



Cleaner filter for longer... ...utilize the cyclone effect.

In regular piping, steam carries large quantities of entrained material. With TLV's Separator Filter, improve heating efficiency and product quality by removing condensate, dirt and scale. Ideal for bio-related industries and other applications requiring high-quality dry steam.



Improved steam dryness

No moisture droplets

Condensate, dirt & scale are removed by centrifugal force

Washing/Pressure Detection Port

Condensate, Dirt & Scale Outlet

Clamp Construction

Ferrule clamp joint facilitates assembly and disassembly.



Cyclone Separator

Sintered Wire Mesh Filter

All Stainless Steel

Body is made of rust-proof CF8 stainless steel.

Time between cleaning & replacement is increased, maintenance cost is reduced.

- Typical Applications**
- Sterilizers, steam washers, etc.
 - Bio-related steam equipment
 - Live steam use - food, pharmaceutical
 - Non-hazardous gas applications

Cyclone Separator



Centrifugal Force and Gravity Remove:

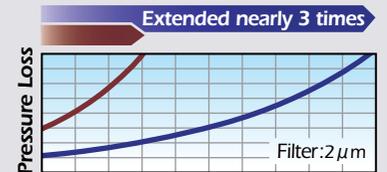
- **98%* of Condensate**
Eliminating condensate produces the highest quality steam.
* for steam velocity up to 100 ft/s
- **Large dirt particles & scale**
Preventing major sources of filter blockage from reaching the filter results in a longer service life.



Maintenance cycle is nearly 3 times longer!

Compared to a filter with no separator, the time between required maintenance is improved by nearly 3 times.

● Pressure Loss vs. Time



- Cyclone Separator & Filter
- Filter Only

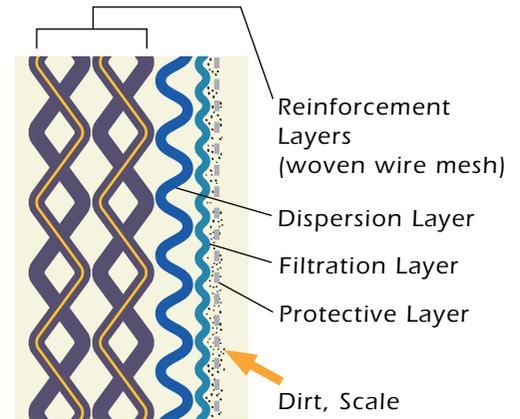
(scale introduction stress test)

5-layer Sintered Wire Mesh Filter



Effective cleaning allows repeated use

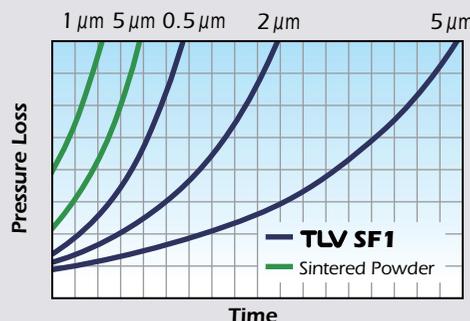
The 5-layer sintered wire mesh filter catches small dirt and scale particles on the outside surface of the filtration layer. Compared to sintered metal powder the wire mesh filter is easier to clean resulting in longer durability, and reusability.



Filter Construction

Low Pressure Loss

TLV's sintered wire mesh filters provide a longer maintenance cycle than powder filters of the same grade. Therefore, the decision to use a finer filter grade or a more compact filter becomes easier.



- **TLV SF1 Sintered Wire Mesh**
(Dia. 1 1/2"; Length 5"; Surface Area 25 in²)

- **Sintered Powder**
(Dia. 2 1/2"; Length 10"; Surface Area 75 in²)

Stress Test Parameters

- Inlet steam pressure : 15 psig
- Flow rate : 66 lb/h
- Iron powder introduced : 1 3/4 oz/h (average size of particles 8 μm)
- Housing : 1"

Specifications



Connection	Screwed	Socket Weld	Flanged
Size (in)		1/2, 3/4, 1, 1 1/2, 2	
Maximum Operating Pressure (psig)	PMO	150	
Maximum Operating Temperature (°F)	TMO	365	
Maximum Allowable Pressure (psig)	PMA	150	
Maximum Allowable Temperature (°F)	TMA	365	
Filter Grade* (µm)		0.5, 2, 5	
Internal & External Finishing**		Acid Cleaning (lost-wax cast)	
Ferrule Clamp		Two-piece two-bolt clamp	
Applicable Fluids***		Steam, Air	

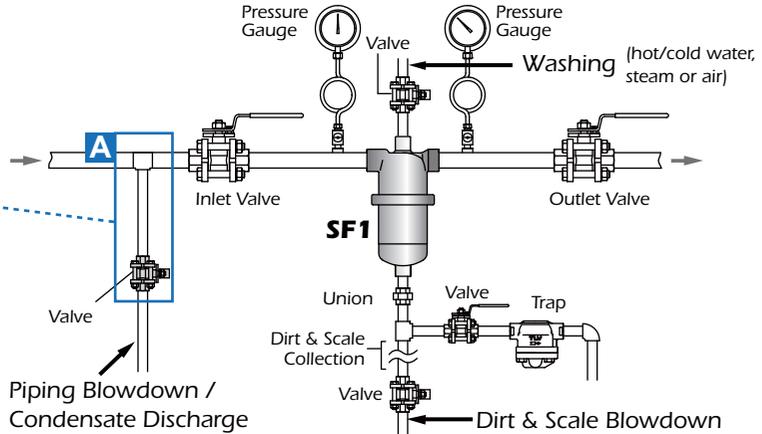
* Consult TLV for other available filter grades ** Optional electro-polishing (lost-wax cast) available on request
 *** Do not use for toxic, flammable or otherwise hazardous fluids.

CAUTION To avoid abnormal operation, accidents or serious injury, DO NOT use this product outside the specification range. Local regulations may restrict this product to below the conditions quoted.

Piping Examples

Typical Installation

Ahead of the inlet valve for the **SF1**, install a **valve for piping blowdown** or a **steam trap** with sufficient discharge capacity when differential pressure is extremely low.

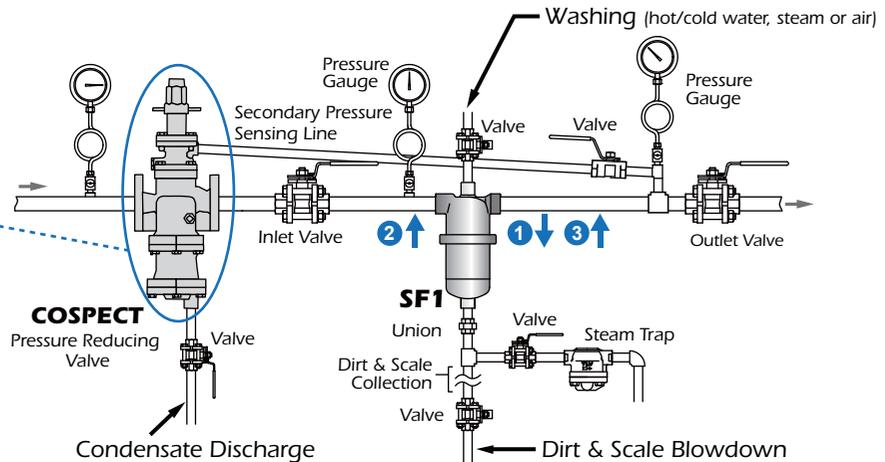


In cases where more stable pressure is needed

For applications where it is desirable to prevent pressure drop at the outlet due to build-up of dirt/scale at the filter.

Installing a **COSPECT PRV** *1 with an external pressure sensing line from the outlet of the **SF1** will help supply stable pressure and minimize pressure drop, which gradually increases due to build-up of dirt/scale at the filter.

- 1 Dirt & scale build up, **SF1** outlet pressure drops.
- 2 PRV detects pressure drop and automatically increases **SF1** inlet pressure.
- 3 **SF1** outlet pressure rises to maintain set pressure*2



*1 If a PRV other than COSPECT (with built-in strainer, separator, and steam trap) is installed, the equipment indicated by **A** in the diagram above must be installed ahead of the PRV for the SF1 inlet.

*2 If it becomes impossible to adjust the pressure with the PRV due to build-up of dirt/scale, clean or replace the filter.

These diagrams are for explanation purposes only and are not intended as installation designs.



DO NOT DISASSEMBLE OR REMOVE THIS PRODUCT WHILE IT IS UNDER PRESSURE. Allow internal pressure of this product to equal atmospheric pressure and its surface to cool to room temperature before disassembling or removing. Failure to do so could cause burns or other injury. READ INSTRUCTION MANUAL CAREFULLY.

TLV CORPORATION

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Manufacturer

TLV CO., LTD.
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is approved by LRQA Ltd. to ISO 9001/14001

ISO 9001/ISO 14001

