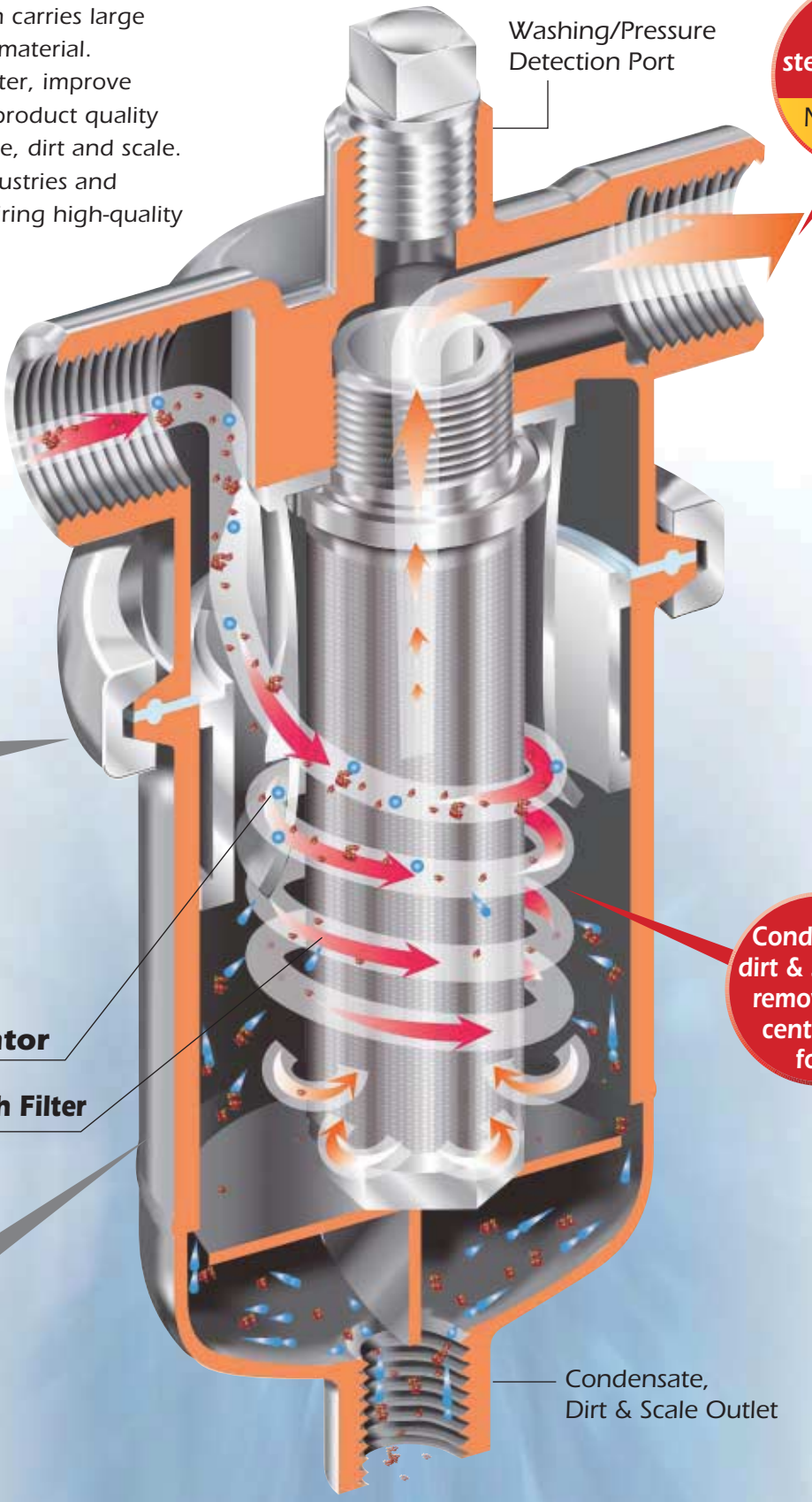
TLV®

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.



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.

Parts with USP/FDA/EN Compliant Materials		Standard		
		USP	FDA	EN
Filter Gasket	High-performance Fluorine Resin	Class VI	21 CFR 177.1550	1935
Body Gasket				
Seal Tape for Plug	Fluorine Resin	–	21 CFR 177.1615	–

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.

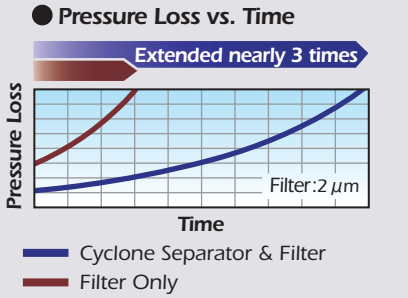
  * for steam velocity up to 30 m/s

- 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.

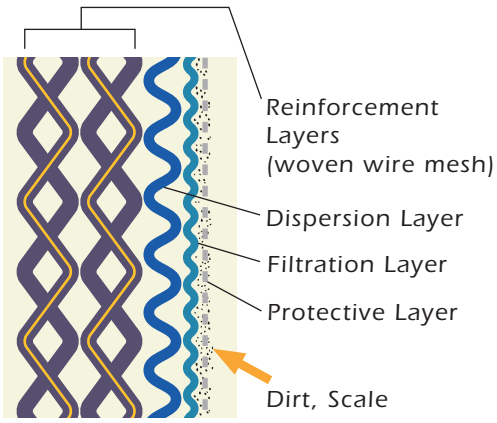


(scale introduction stress test)

5-layer Sintered Wire Mesh Filter

Effective cleaning allows repeated use

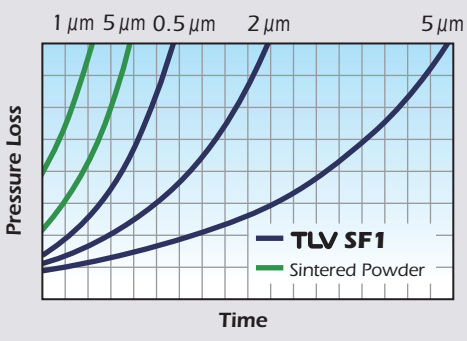
The 5-layer sintered wire mesh filter catches small dirt and scale particles on the outside surface of the filtration layer. Compared to sintered metal powder the wire mesh filter is easier to clean resulting in longer durability, and reusability.



Filter Construction

Low Pressure Loss

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



- TLV SF1 Sintered Wire Mesh (Dia. 40 mm; Length 125 mm; Surface Area 160 cm²)
- Sintered Powder (Dia. 60 mm; Length 250 mm; Surface Area 470 cm²)

Stress Test Parameters

- Inlet steam pressure : 1 barg
- Flow rate : 30 kg/h
- Iron powder introduced : 50 g/h (average size of particles 8 μm)
- Housing : DN25

■ Specifications

Connection	Screwed	Socket Welded	Flanged
Size	½″, ¾″, 1″, 1½″, 2″	DN 15, 20, 25, 40, 50	
Maximum Operating Pressure (barg) PMO	10		
Maximum Operating Temperature (°C) TMO	185		
Nominal Filter Rating* (µm)	0.5, 2, 5		
Internal & External Finishing**	Acid Cleaning (lost-wax cast)		
Ferrule Clamp	Two-piece two-bolt clamp		
Applicable Fluids***	Steam, Air		

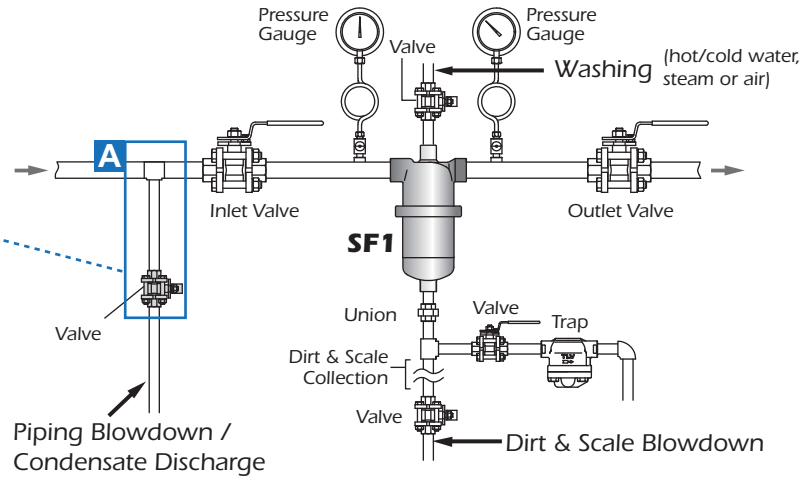
* Consult TLV for other available filter ratings
1 bar = 0.1 MPa
** Optional electro-polishing (lost-wax cast) available on request
*** Do not use for toxic, flammable or otherwise hazardous fluids.
PRESSURE SHELL DESIGN CONDITIONS (**NOT** OPERATING CONDITIONS): Maximum Allowable Pressure (barg) PMA: 10
Maximum Allowable Temperature (°C) TMA: 185

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 **trap** with sufficient discharge capacity when differential pressure is extremely low.

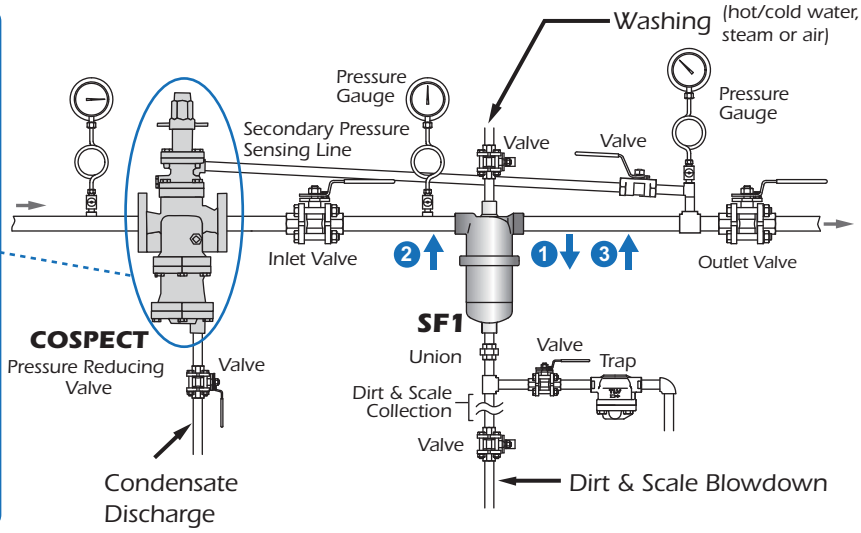


In cases where more stable pressure is needed

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 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.

For explanation purposes only, not intended as installation designs.

TLV EURO ENGINEERING UK LTD.
Star Lodge, Montpellier Drive, Cheltenham, Gloucestershire, GL50 1TY, U.K.
Tel: [44]-(0)1242-227223 Fax: [44]-(0)1242-223077
E-mail: info@tlv.co.uk **http://www.tlv.com**

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

Pamphlet U3000 Rev. 10/2019
Specifications subject to change without notice.