Series TSW 625

mounting surface   ①

surface quality   .12 μin

flatness tolerance   .01"

M2 ①

view X

3.063

M3

1.689

M12x.708 deep

clogging indicator, visual

M1

.433

3.543

7.283 dia

M3

3.543

6.890 dia

M2

pressure switch

2)

3.543   3.543   4.213
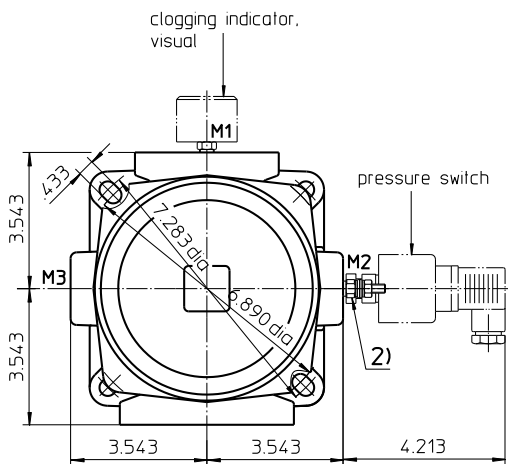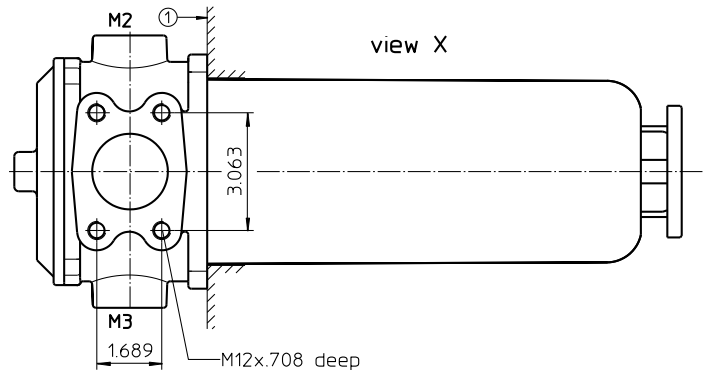
2) Connection for the potential equalization, only for application in the explosive area.

17.362

5.000   12.362

for extension 15.748

M1 ①

.709 -.078

IN

1.181 sq.

.472

4.881 +1.96 dia

4.724 dia

OUT

2.008

8 2   3 4   1   X   5 6   7
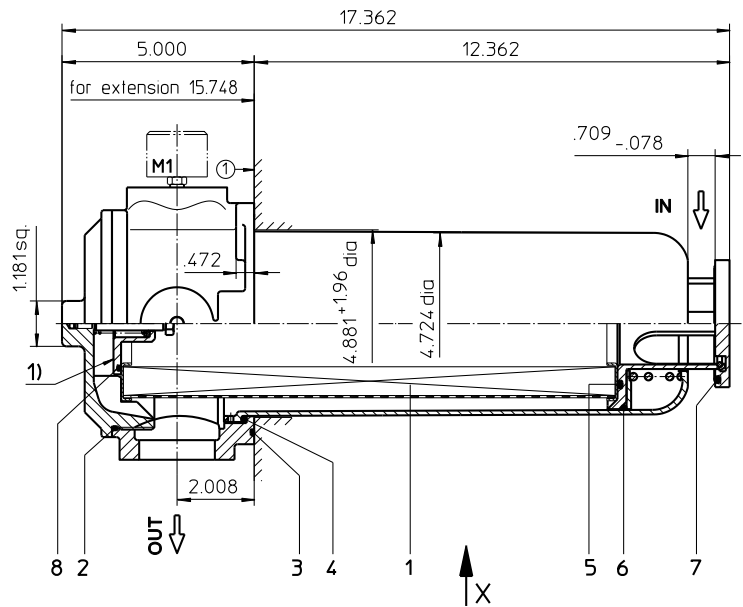
1) The bypass valve is integrated in the screw plug. For the filter without a bypass valve the opening function is raised up to Δp > 14.5 PSI.

Weight approx.: 12 lbs.

Dimensions: inches

Designs and performance values are subject to change!

Suction Filter
Series TSW 625

Description:

The TSW-filters are directly mounted to the reservoir and connected to the suction-line.

The filter element consists of a star-shaped folded bellows, which is flowed through from the inside to the outside.

For cleaning the mesh element or changing the microglass element, remove the cover and take out the element. The mesh elements are not guaranteed to maintain 100% performance after cleaning

Filters finer than 40 µm use the disposable elements made of paper or microglass. Filter elements as fine as 5 µm(c) are available; finer filter elements on request.

Eaton filter elements are known as stable elements which have excellent filtration capabilities and a high dirt retaining capacity, therefore having a long service life. Due to its practical design, the return-line filter is easy to service.

Eaton filter can be used for petroleum-based fluids, HW emulsions, water glycols, most synthetic fluids and lubrication fluids. Consult factory for specific fluid applications.

Due to its practical design, the return-line filter is easy to service. When releasing the filter cover a plate-shaped valve closes the suction-inlet of the filter bowl and prevents the return flow of dirt oil into the reservoir. For cleaning, the filter bowl together with the filter element can be taken out of the filter head.

Type index:

Complete filter: (ordering example)

TSW. 625. 10VG. -. B. P. -. FS. 8. -. -. O1. E4.-0,25. -
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

__1__ **series:**
TSW = suction filter for horizontal tank-mounting

__2__ **nominal size:** 625

__3__ **filter material:**
80G, 40G, 25G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
10P paper

__4__ **filter element collapse rating:**
- = not specified

__5__ **filter element design:**
B = both sides open

__6__ **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)

__7__ **filter element specification:**
- = standard

__8__ **process connection:**
FS = SAE-flange connection 3000 PSI

__9__ **process connection size:**
8 = 2"

__10__ **filter housing specification:**
- = standard
IS11 = for mining applications, see sheet-no. 40530

__11__ **internal valve:**
- = without
S = with by-pass valve Δp 4.1 PSI

__12__ **clogging indicator at M1:**
- = without
O1 = visual, see sheet-no. 1616
E4.-0,25 = pressure switch, see sheet-no. 1616
PA = potential equalization

__13__ **clogging indicator at M2:**
possible indicators see position 12 of the type index

__14__ **clogging indicator at M3:**
possible indicators see position 12 of the type index

To add an indicator to your filter, use the corresponding indicator data sheet to find the indicator details and add them to the filter assembly model code.

Filter element: (ordering example)

01TS. 625. 10VG. -. B. -. -
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

__1__ **series:**
01TS. = suction filter element according to company standard

__2__ **nominal size:** 625

__3__ - __5__ , __7__ see type index-complete filter

__6__ **sealing material:**
- = without

Technical data:

operating temperature:	+14°F to +212°F
operating medium	mineral oil, other media on request
process connection:	SAE-flange connection 3000 PSI
housing material standard:	filter head / filter cover AL / filter bowl glass fiber reinforced polyamide
housing material IS11/category M2:	filter head / filter cover GG / filter bowl carbon fiber reinforced polyamide
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	horizontal
volume tank:	1.1 Gal.

Classified under the Pressure Equipment Directive 2014/68/EU for mineral oil (fluid group 2), Article 4, Para. 3.
Classified under ATEX Directive 2014/34/EU according to specific application (see questionnaire sheet-no. 34279-4).

Pressure drop flow curves:

Filter calculation/sizing

The pressure drop of the assembly at a given flow rate Q is the sum of the housing ∆p and the element ∆p and is calculated as follows:

$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$
$\Delta p_{housing} = (see \; \Delta p = f(Q) - characteristics)$

$$\Delta p_{element} (PSI) = \; Q\,(GPM)\; x\; \frac{MSK}{1000}\left(\frac{PSI}{GPM}\right) x\; v\,(SUS)\; x\; \frac{\rho}{0.876}\left(\frac{kg}{dm^3}\right)$$

For ease of calculation our Filter Selection tool is available online at www.eaton.com/hydraulic-filter-evaluation
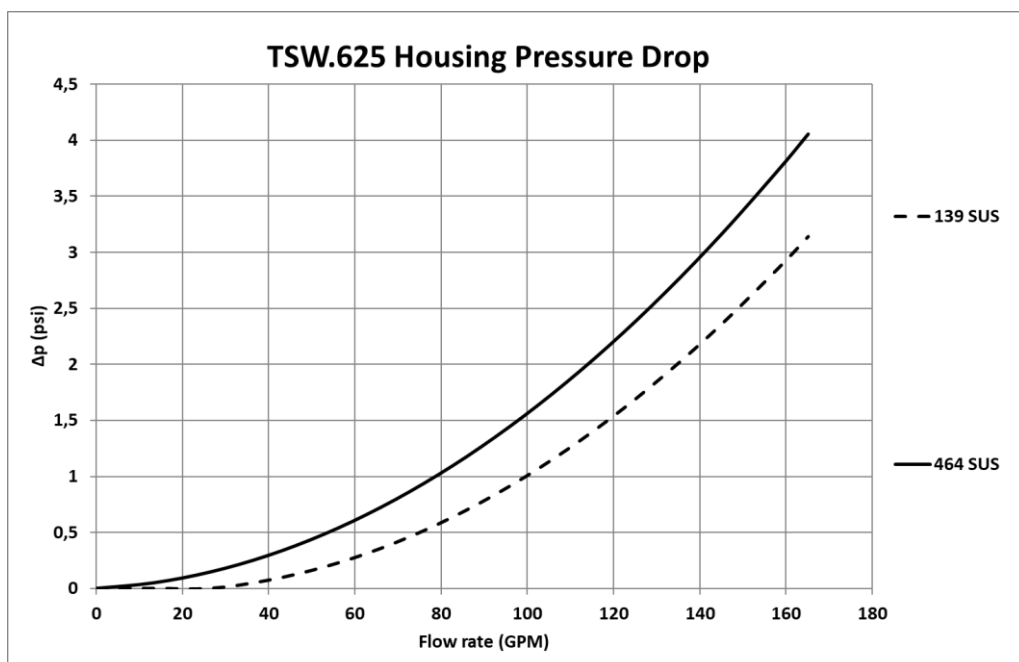
Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in psi/gpm apply to mineral oil (HLP) with a density of 0.876 kg/dm³ and a kinematic viscosity of 139 SUS (30 mm²/s). The pressure drop changes proportionally to the change in kinematic viscosity and density.
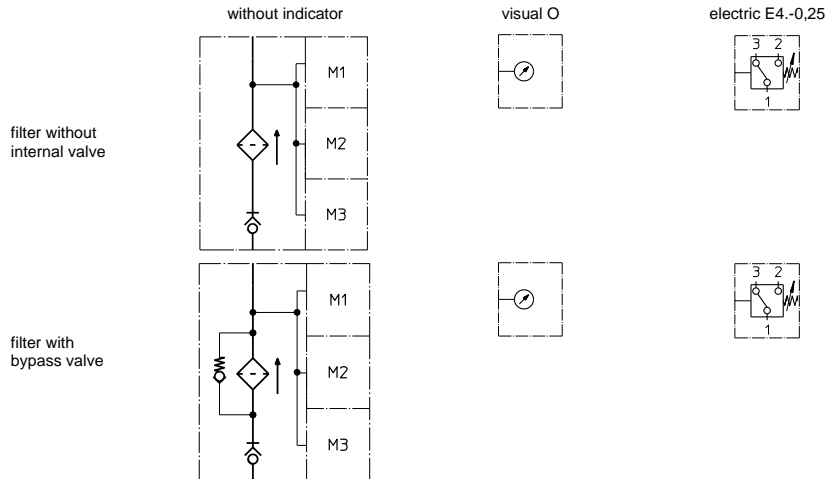
TSW	VG					G			P
	3VG	6VG	10VG	16VG	25VG	25G	40G	80G	10P
625	0.733	0.509	0.326	0.284	0.194	0.0170	0.0159	0.0109	0.160

∆p = f(Q) – characteristics according to ISO 3968

The pressure drop characteristics apply to mineral oil (HLP) with a density of 0.876 kg/dm³. The pressure drop changes proportionally to the density.

Symbols:

without indicator	visual O	electric E4.-0,25

filter without internal valve

filter with bypass valve

Spare parts:

item	qty.	designation	dimensions	article-no.	
1	1	filter element	01.TS625…		
2	1	O-ring	135 x 3,5	318386 (NBR)	318387 (FPM)
3	1	O-ring	140 x 3	304604 (NBR)	307514 (FPM)
4	1	O-ring	120 x 4	305300 (NBR)	307991 (FPM)
5	1	O-ring	76 x 4	305599 (NBR)	310291 (FPM)
6	1	O-ring	104,37 x 3,53	304339 (NBR)	304390 (FPM)
7	1	O-ring	70 x 4	306253 (NBR)	310280 (FPM)
8	1	O-ring	56 x 3	305072 (NBR)	305322 (FPM)

Test methods:

Filter elements are tested according to the following ISO standards:

ISO 2941	Verification of collapse/burst resistance
ISO 2942	Verification of fabrication integrity
ISO 2943	Verification of material compatibility with fluids
ISO 3723	Method for end load test
ISO 3724	Verification of flow fatigue characteristics
ISO 3968	Evaluation of pressure drop versus flow characteristics
ISO 16889	Multi-pass method for evaluating filtration performance

For more information, please email us at *filtration@eaton.com*
or visit *www.eaton.com/filtration*

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