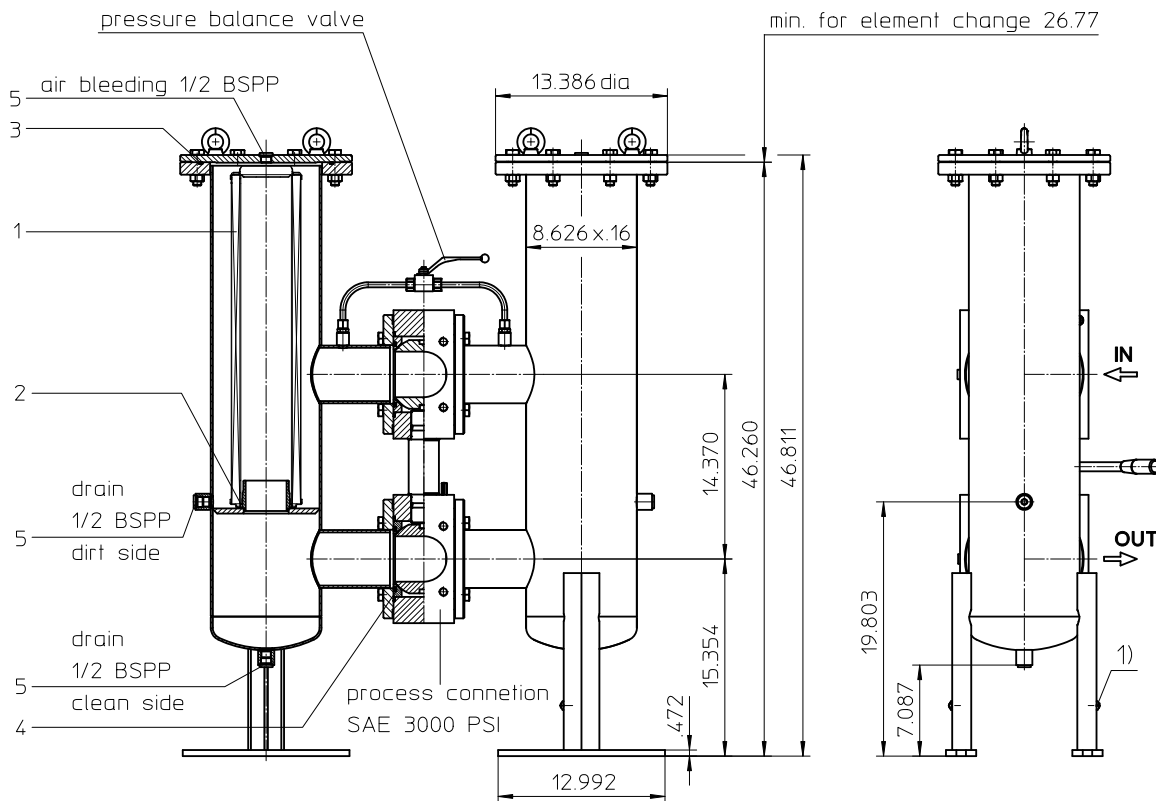
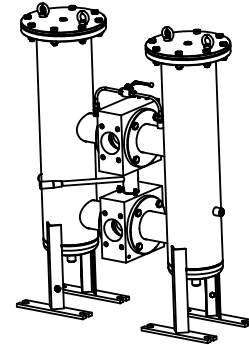
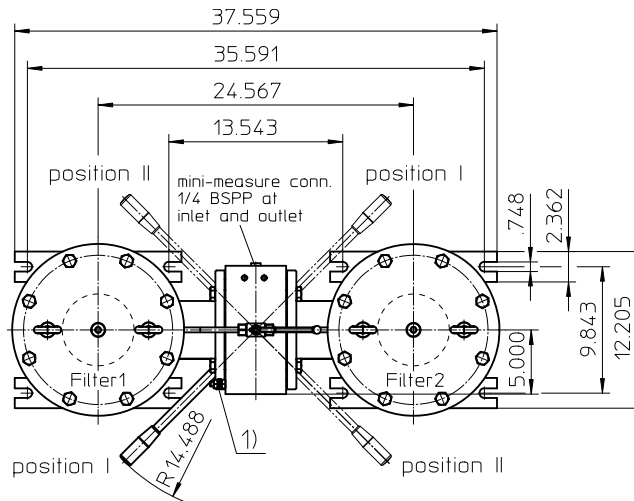


Series DWF 1505

232 PSI



Position I: Filter 1 in operation
Position II: Filter 2 in operation

1) Connect the stand grounding tab to a suitable earth ground point.

Weight: approx. 551 lbs
Dimensions: inches

Duplex Pressure Filter

Series DWF 1505

232 PSI

Description:

Duplex filter series DWF 1505 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 40 µm, use the disposable elements made of glass fiber. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 1505. 10VG. 10. E. P. -. FS. B. -. OP

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

- 1 series:**
DWF = double welded filter
- 2 nominal size:** 1505
- 3 filter-material and filter-fineness:**
stainless steel wire mesh: 80G, 40G, 25G, 10G
glass fiber: 25VG, 16VG, 10VG, 6VG, 3VG
glass fiber according to API: 25API, 10API
- 4 filter element collapse rating:**
10 = Δp 145 PSI
- 5 filter element design:**
E = without by-pass
S = with by-pass valve Δp 29 PSI
- 6 sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)
- 7 filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601
- 8 process connection:**
FS = flange SAE 3000 PSI
- 9 process connection size:**
B = 4"
- 10 filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no.1615
OP = visual, see sheet-no.1614
OE = visual-electric, see sheet-no.1614
VS5 = electronic, see sheet-no.1619

Filter element: (ordering example)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 series:**
01E. = filter element according to company standard
- 2 nominal size :** 1501
- 3 - 7** see type index complete filter

Accessories:

- measure- and bleeder connection, see sheet-no. 1650
- drain- and bleeder connection, see sheet-no. 1651
- shut-off valve, see sheet-no. 1655
- lifting mechanism, see sheet-no. 1661

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure:	334 PSI
process connection:	flange SAE 3000 PSI
housing material:	C-steel
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	½ BSPP
measure connections:	¼ BSPP
volume tank:	2x 8,6 Gal.

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

Pressure drop flow curves:

Performance characteristics of DWF 1505 (Data sheet 2227)

Filter calculation/sizing

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

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

$$\Delta p_{Element} (PSI) = Q (GPM) \times \frac{MSK (PSI)}{1000 \left(\frac{PSI}{GPM}\right)} \times v (SUS) \times \frac{\rho}{0,876} \left(\frac{kg}{dm^3}\right)$$

For ease of calculation our Filter Selection tool is available online at
www.eatonpowersource.com/calculators/filtration/

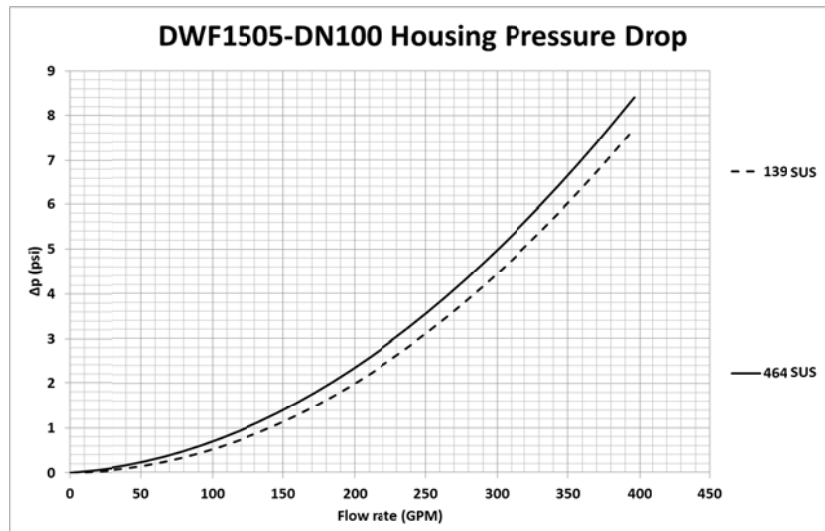
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10API	25API
DWF 1505	0,193	0,134	0,086	0,075	0,051	0,0071	0,0053	0,0049	0,0034	0,048	0,022

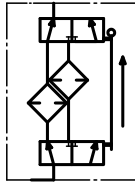
$\Delta p = f(Q)$ – characteristics according to ISO 3968

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.

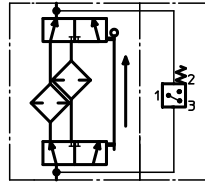


Symbols:

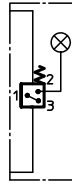
without indicator



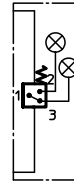
with electric indicator
AE 30 and AE 40



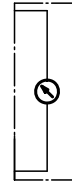
with visual-electric indicator
AE 50 and AE 62



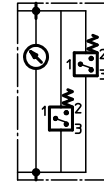
with visual-electric indicator
AE 70 and AE 80



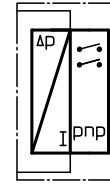
with visual indicator
OP



with visual-electric indicator
OE



with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	2	filter element	01E.1501...		
2	2	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	250 x 5	xxxxxx (NBR)	xxxxxx (FPM)
4	4	gasket kit of change over UKK	DN100 (4")	322721 (NBR)	322722 (FPM)
5	6	screw plug	½ BSPP	304678	
6	1	clogging indicator, visual-electric	AE	see sheet-no.1615	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1619	
10	1	O-ring	22 x 2	304708 (NBR)	304721 (FPM)
11	1	O-ring	14 x 2	304342 (NBR)	304722 (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

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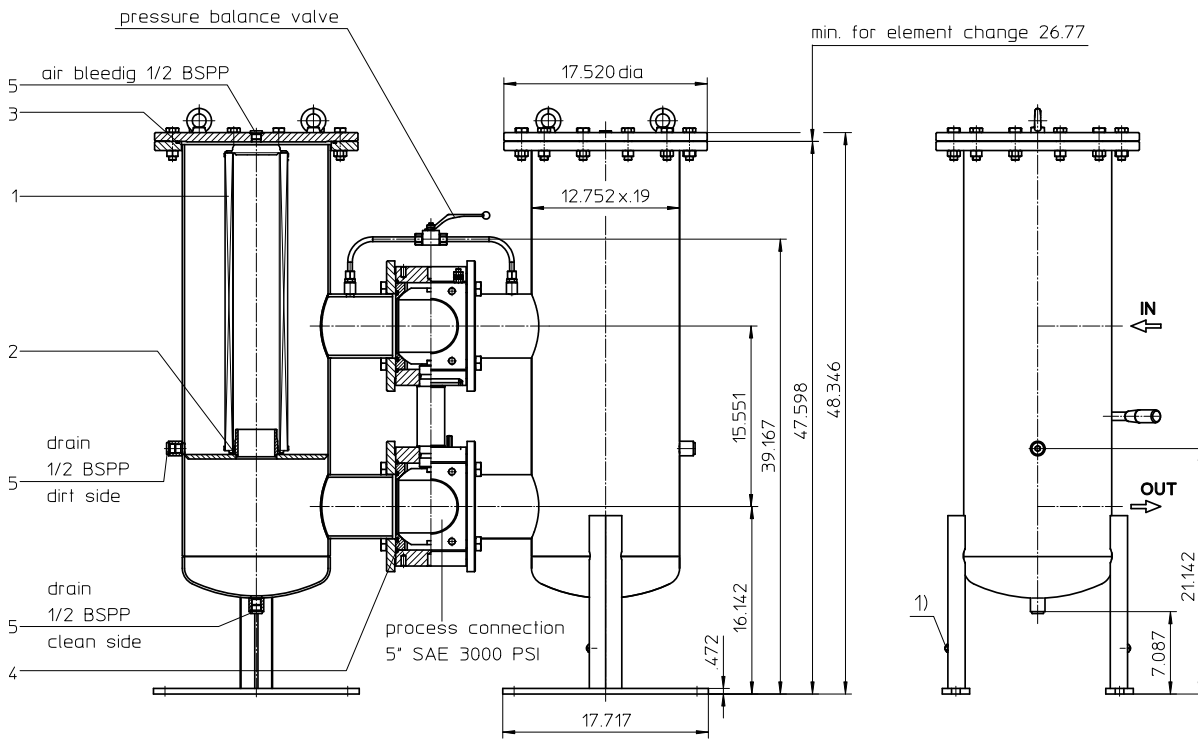
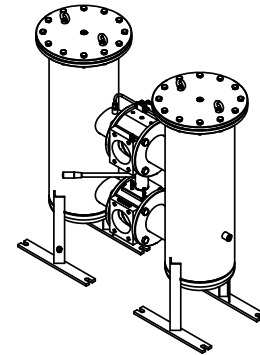
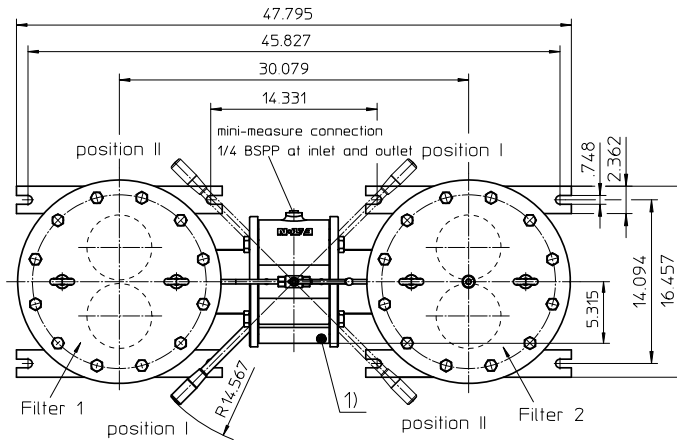
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Series DWF 3005

232 PSI



Position I: Filter 1 in operation
Position II: Filter 2 in operation

1) Connect the stand grounding tab to a suitable earth ground point.

Weight: approx. 683 lbs
Dimensions: inches

Duplex Pressure Filter

Series DWF 3005

232 PSI

Description:

Duplex filter series DWF 3005 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 40 µm, use the disposable elements made of glass fiber. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 3005. 10VG. 10. E. P. -. FS. C. -. OP

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

- 1 | **series:**
DWF = double welded filter
- 2 | **nominal size:** 3005
- 3 | **filter-material and filter-fineness:**
stainless steel wire mesh: 80G, 40G, 25G, 10G
glass fiber: 25VG, 16VG, 10VG, 6VG, 3VG
glass fiber according to API: 25API, 10API
- 4 | **filter element collapse rating:**
10 = Δp 145 PSI
- 5 | **filter element design:**
E = without by-pass
S = with by-pass valve Δp 29 PSI
- 6 | **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)
- 7 | **filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601
- 8 | **process connection:**
FS = flange SAE 3000 PSI
- 9 | **process connection size:**
C = 5"
- 10 | **filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 | **clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no.1615
OP = visual, see sheet-no.1614
OE = visual-electric, see sheet-no.1614
VS5 = electronic, see sheet-no.1619

Filter element: (ordering example)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 | **series:**
01E. = filter element according to company standard
- 2 | **Nominal size:** 1501
- 3 | - 7 | see type index complete filter

Accessories:

- measure- and bleeder connection, see sheet-no. 1650
- drain- and bleeder connection, see sheet-no. 1651
- shut-off valve, see sheet-no. 1655
- lifting mechanism, see sheet-no. 1661

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure:	334 PSI
process connection:	flange SAE 3000 PSI
housing material:	C-steel
housing material change over:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	½ BSPP
measure connections:	¼ BSPP
volume tank:	2x 18,2 Gal.

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

Pressure drop flow curves:

Performance characteristics of DWF 3005 (Data sheet 2228)

Filter calculation/sizing

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

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

$$\Delta p_{Element} (PSI) = Q (GPM) \times \frac{MSK}{1000} \left(\frac{PSI}{GPM} \right) \times v (SUS) \times \frac{\rho}{0,876} \left(\frac{kg}{dm^3} \right)$$

For ease of calculation our Filter Selection tool is available online at
www.eatonpowersource.com/calculators/filtration/

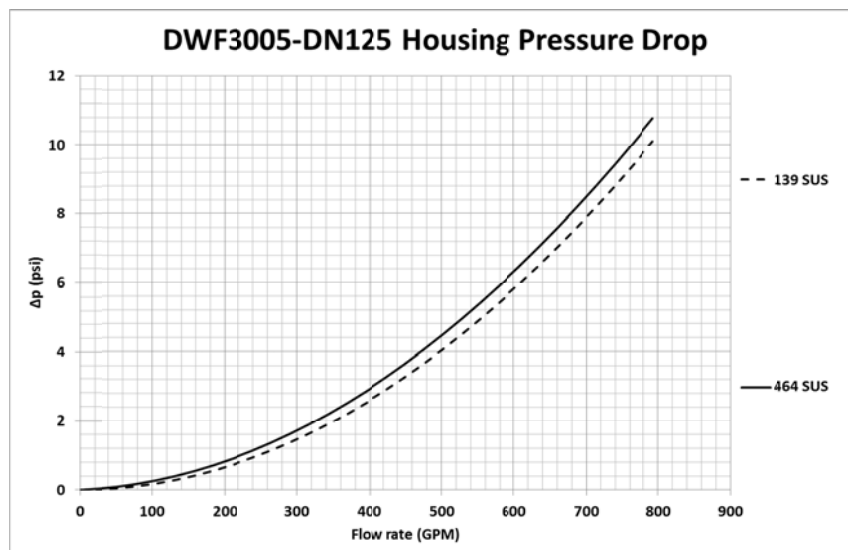
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10API	25API
DWF 3005	0,096	0,067	0,043	0,037	0,025	0,0035	0,0026	0,0025	0,0017	0,024	0,011

$\Delta p = f(Q)$ – 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

with electric indicator
AE 30 and AE 40

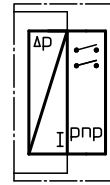
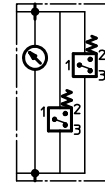
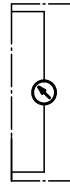
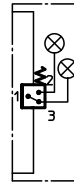
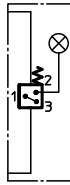
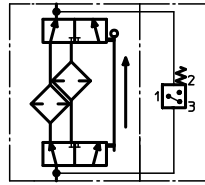
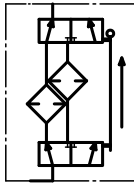
with visual-electric indicator
AE 50 and AE 62

with visual-electric indicator
AE 70 and AE 80

with visual indicator
OP

with visual-electric indicator
OE

with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	4	filter element	01E.1501...		
2	4	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	330 x 5	xxxxxx (NBR)	310275 (FPM)
4	4	gasket kit of change over UKK	DN125 (5")	322726 (NBR)	322727 (FPM)
5	6	screw plug	½ BSPB	304678	
6	1	clogging indicator, visual-electric	AE	see sheet-no.1615	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1619	
10	1	O-ring	22 x 2	304708 (NBR)	304721 (FPM)
11	1	O-ring	14 x 2	304342 (NBR)	304722 (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

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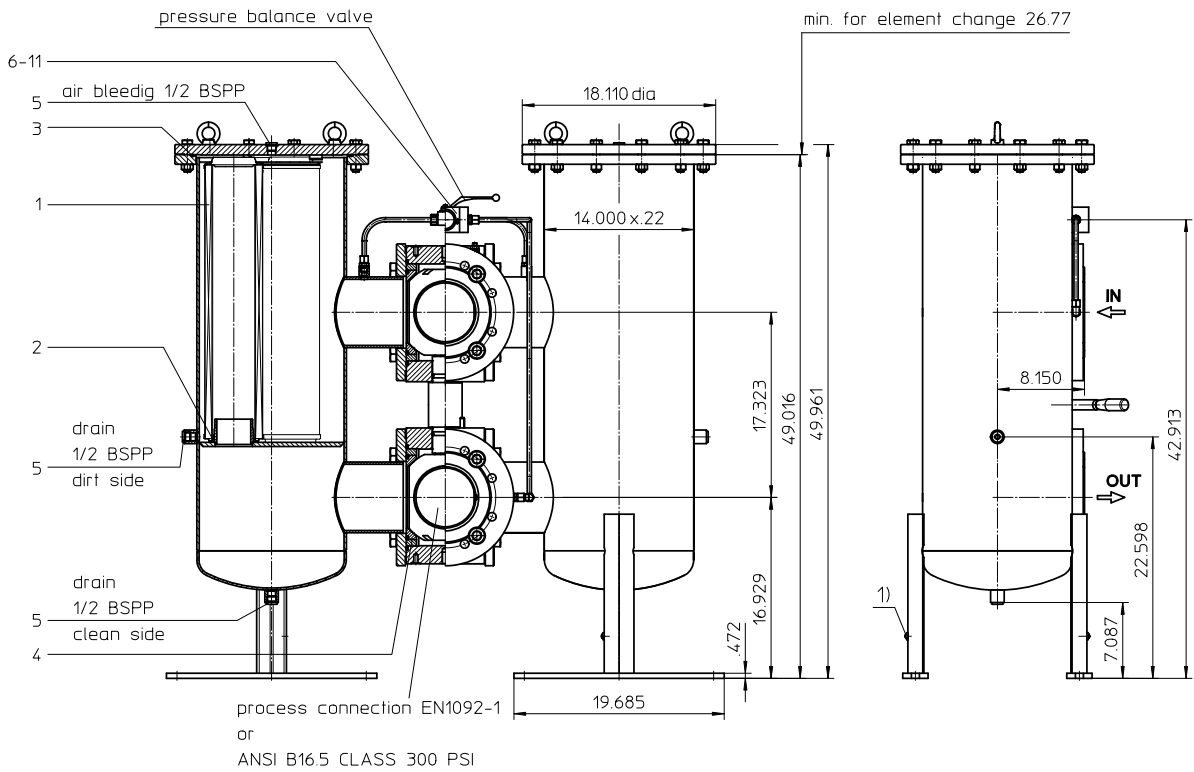
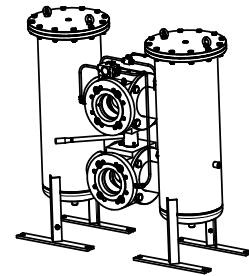
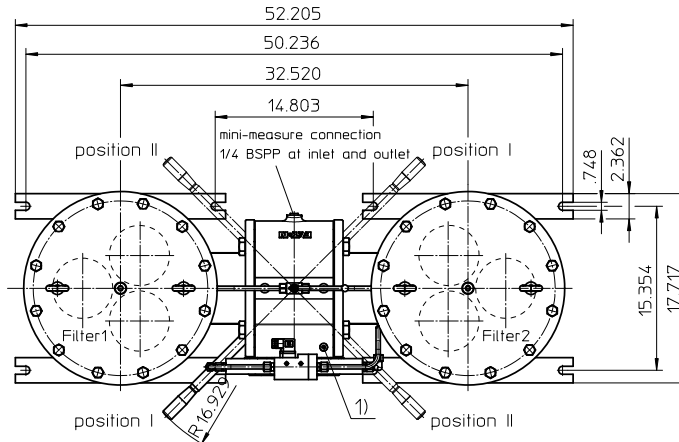
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Series DWF 4505

232 PSI



Position I: Filter 1 in operation
 Position II: Filter 2 in operation

1) Connect the stand grounding tab to a suitable earth ground point.

Weight: approx. 1323 lbs.

Dimensions: inches

Designs and performance values are subject to change.

Duplex Pressure Filter

Series DWF 4505

232 PSI

Description:

Duplex filter series DWF 4505 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 40 µm, use the disposable elements made of glass fiber. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 4505. 10VG. 10. E. P. -. FA1. D. -. OP

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

- 1 series:**
DWF = double welded filter
- 2 nominal size:** 4505
- 3 Filter material and grades of filter fineness (µm):**
stainless steel wire mesh: 80G, 40G, 25G, 10G
glass fiber: 25VG, 16VG, 10VG, 6VG, 3VG
glass fiber according to API: 25API, 10API
- 4 filter element collapse rating:**
10 = Δp 145 PSI
- 5 filter element design:**
E = without by-pass
S = with by-pass valve Δp 29 PSI
- 6 sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)
- 7 filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601
- 8 process connection**
FD1 = flange EN1092-1, design B1
FD2 = flange EN1092-1, design B2
FA1 = flange ANSI CLASS 300 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
FA2 = flange ANSI CLASS 300 PSI, sealing surface Rz = 16 µm
- 9 process connection size:**
D = DN150 (6")
- 10 filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no.1615
OP = visual, see sheet-no.1614
OE = visual-electric, see sheet-no.1614
VS5 = electronic, see sheet-no.1619

Filter element: (ordering example)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 series:**
01E. = filter element according to company standard
- 2 nominal size:** 1501
- 3 - 7** see type index complete filter

Accessories:

- measure- and bleeder connection, see sheet-no. 1650
- drain- and bleeder connection, see sheet-no. 1651
- shut-off valve, see sheet-no. 1655
- lifting mechanism, see sheet-no. 1661

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium:	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure:	334 PSI
process connection:	flange EN1092-1, 232 PSI or flange ANSI B16.5 CLASS 300 PSI
housing material:	C-steel
housing material change over:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	½ BSPP
measure connections:	¼ BSPP
volume tank:	2x 23,8 Gal.

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

Pressure drop flow curves:

Performance characteristics of DWF 4505 (Data sheet 2229)

Filter calculation/sizing

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

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

$$\Delta p_{Element} (PSI) = Q (GPM) \times \frac{MSK}{1000} \left(\frac{PSI}{GPM} \right) \times v (SUS) \times \frac{\rho}{0,876} \left(\frac{kg}{dm^3} \right)$$

For ease of calculation, our Filter Selection tool is available online at:

www.eatonpowersource.com/calculators/filtration/

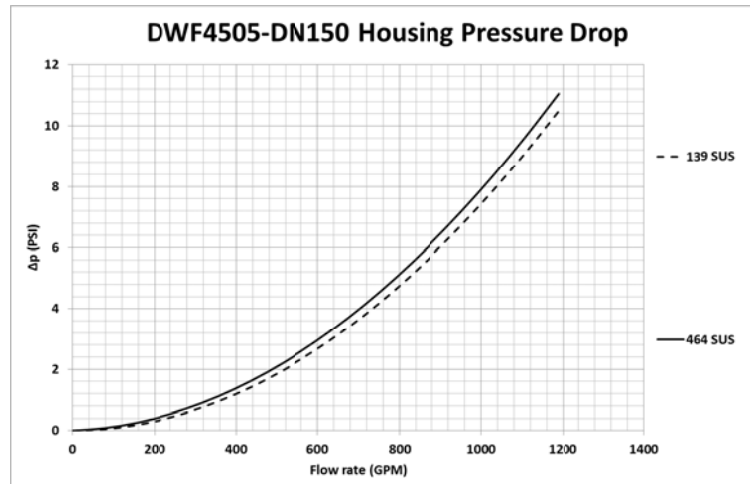
Material gradient coefficients (MSK) for filter elements

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.

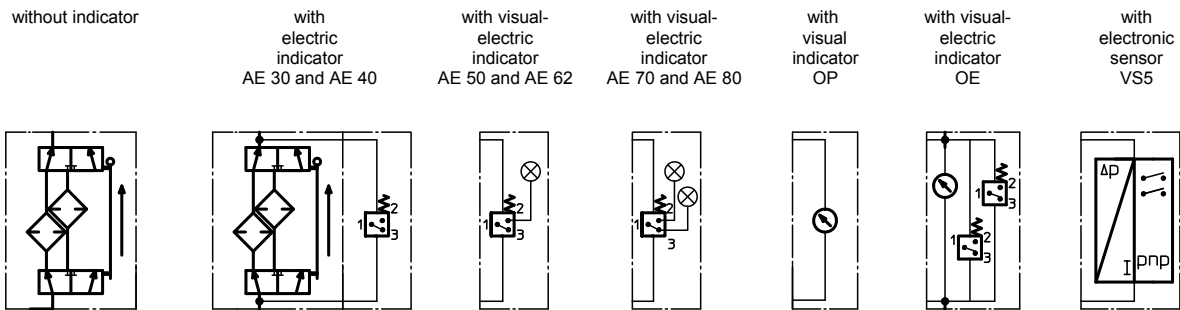
DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10API	25API
DWF 4505	0.064	0.045	0.029	0.025	0.017	0.0024	0.0018	0.0016	0.0011	0.016	0.007

$\Delta p = f(Q)$ – 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:



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	6	filter element	01E.1501...		
2	6	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	372 x 5	347195 (NBR)	xxxxxx (FPM)
4	4	gasket kit of change over UKK	DN150 (6")	319929 (NBR)	322725 (FPM)
5	6	screw plug	½ BSPP	304678	
6	1	clogging indicator, visual-electric	AE	see sheet-no. 1615	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1619	
10	1	O-ring	22 x 2	304708 (NBR)	304721 (FPM)
11	1	O-ring	14 x 2	304342 (NBR)	304722 (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

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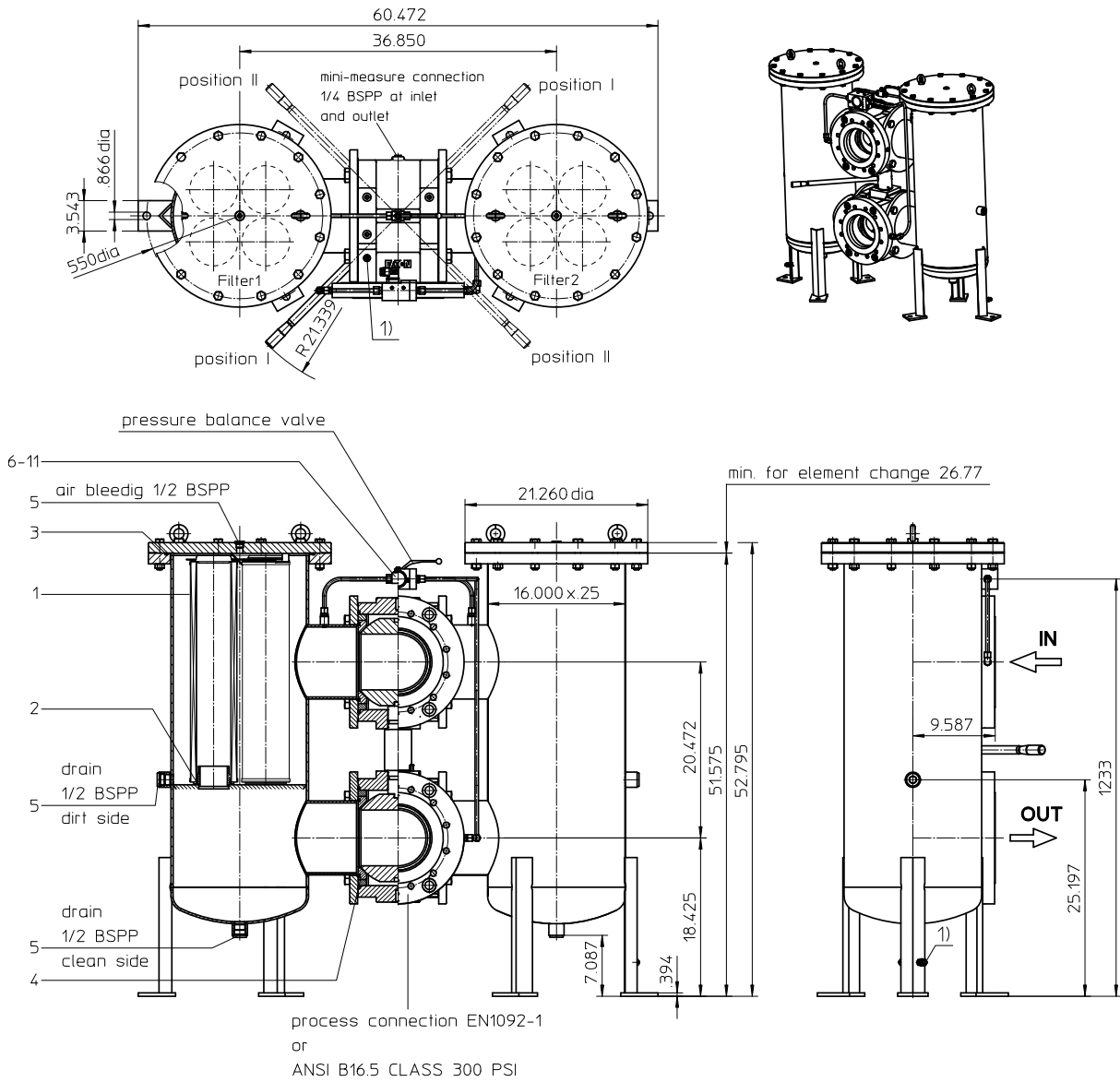
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Series DWF 6005

232 PSI



Position I: Filter 1 in operation
 Position II: Filter 2 in operation

1) Connect the stand grounding tab to a suitable earth ground point.

Weight: approx. 1504 lbs.

Dimensions: inches

Designs and performance values are subject to change.

Duplex Pressure Filter

Series DWF 6005

232 PSI

Description:

Duplex filter series DWF 6005 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A change over ball valve between the two filter housings makes it possible to switch from the dirty filter-side to the clean filter-side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return-line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 40 µm, use the disposable elements made of glass fiber. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 6005. 10VG. 10. E. P. -. FA1. E. -. OP

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

- 1 series:**
DWF = double welded filter
- 2 nominal size:** 6005
- 3 filter-material and filter-fineness:**
stainless steel: 80G, 40G, 25G, 10G
glass fiber: 25VG, 16VG, 10VG, 6VG, 3VG
glass fiber according to API: 25API, 10API
- 4 filter element collapse rating:**
10 = Δp 145 PSI
- 5 filter element design:**
E = without by-pass
S = with by-pass valve Δp 29 PSI
- 6 sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)
- 7 filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601
- 8 process connection:**
FD1 = flange EN1092-1, design B1
FD2 = flange EN1092-1, design B2
FA1 = flange ANSI CLASS 300 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
FA2 = flange ANSI CLASS 300 PSI, sealing surface Rz = 16 µm
- 9 process connection size:**
E = DN200 (8")
- 10 filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no.1615
OP = visual, see sheet-no.1614
OE = visual-electric, see sheet-no.1614
VS5 = electronic, see sheet-no.1619

Filter element: (ordering example)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

- 1 series:**
01E. = filter element according to company standard
- 2 nominal size:** 1501
- 3 - 7** see type index complete filter

Accessories:

- measure- and bleeder connection, see sheet-no. 1650
- drain- and bleeder connection, see sheet-no. 1651
- shut-off valve, see sheet-no. 1655
- lifting mechanism, see sheet-no. 1661

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium:	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure:	334 PSI
process connection:	flange EN1092-1, 232 psi or flange ANSI B16.5 CLASS 300 PSI
housing material:	C-steel
housing material change over:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	½ BSPP
measure connections:	¼ BSPP
volume tank:	2x 31,2 Gal.

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

Pressure drop flow curves:

Performance characteristics of DWF 6005 (Data sheet 2230)

Filter calculation/sizing

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

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

$$\Delta p_{Element} (PSI) = Q (GPM) \times \frac{MSK}{1000} \left(\frac{PSI}{GPM} \right) \times v (SUS) \times \frac{\rho}{0,876} \left(\frac{kg}{dm^3} \right)$$

For ease of calculation our Filter Selection tool is available online at
www.eatonpowersource.com/calculators/filtration/

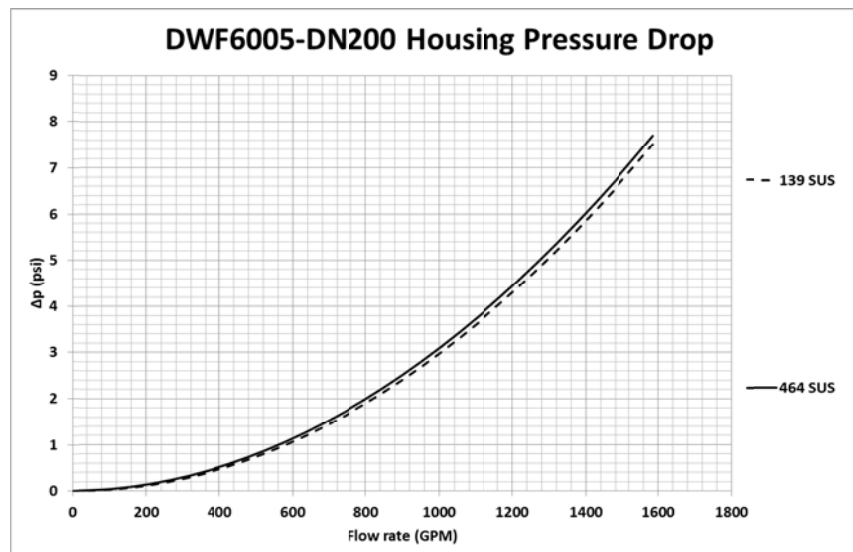
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10API	25API
DWF 6005	0,048	0,033	0,021	0,019	0,013	0,0018	0,0013	0,0012	0,0008	0,012	0,005

$\Delta p = f(Q)$ – 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

with electric indicator
AE 30 and AE 40

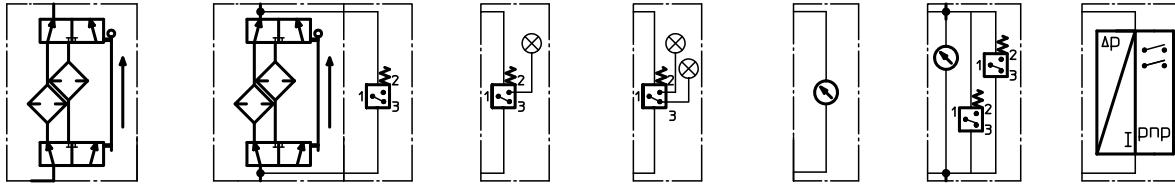
with visual-electric indicator
AE 50 and AE 62

with visual-electric indicator
AE 70 and AE 80

with visu indicator
OP

with visual-electric indicator
OE

with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	8	filter element	01E.1501...		
2	8	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	429 x 6	308659 (NBR)	310273 (FPM)
4	4	gasket kit of change over UKK	DN200 (8")	322723 (NBR)	322724 (FPM)
5	6	screw plug	½ BSPP	304678	
6	1	clogging indicator, visual-electric	AE	see sheet-no.1615	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1619	
10	1	O-ring	22 x 2	304708 (NBR)	304721 (FPM)
11	1	O-ring	14 x 2	304342 (NBR)	304722 (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

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Series DWF 1505

232 PSI

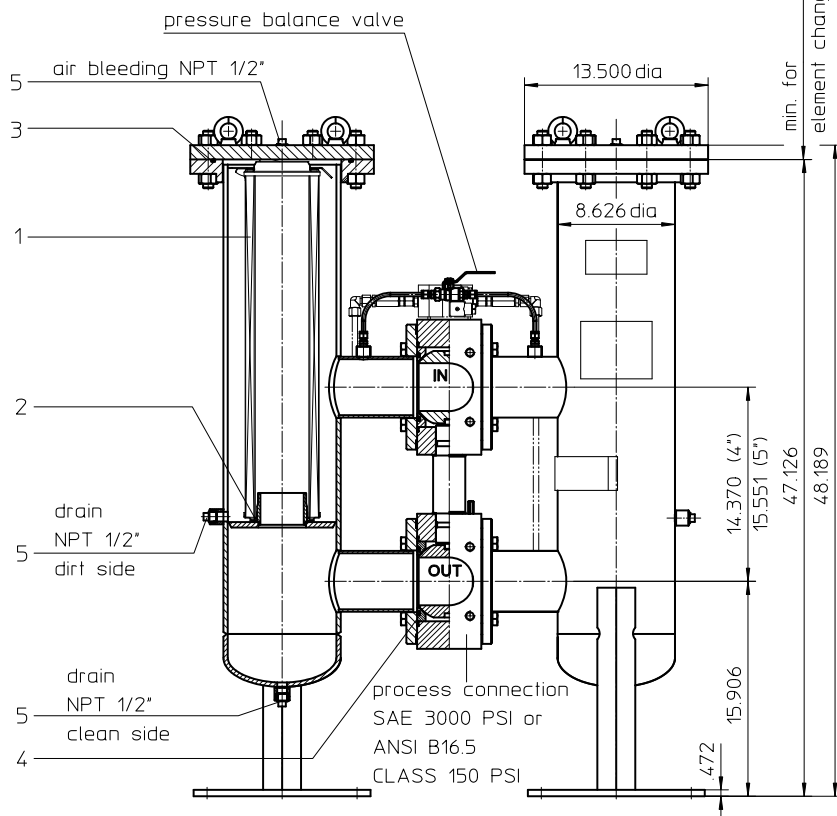
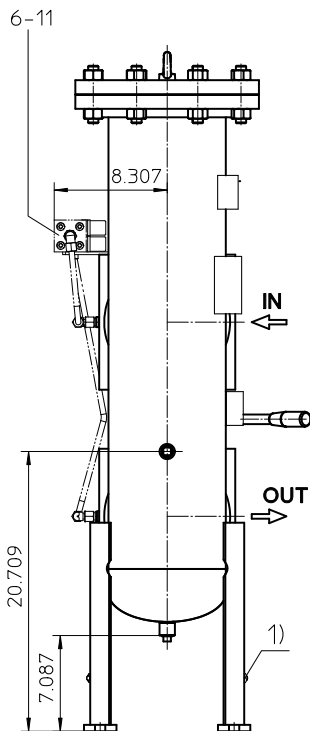
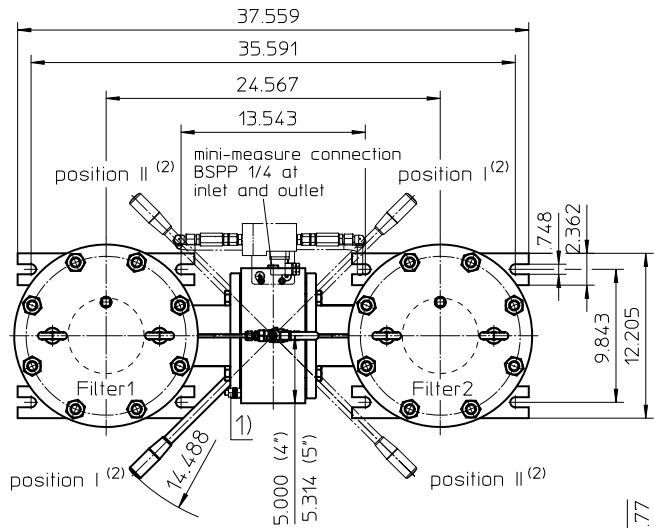
- 1) Connect the stand grounding tab to a suitable earth ground point.

Switch lever standard in the front.

- 2) On request: The switch lever can be moved to backside of the changeover valve, opposite to the inlet and outlet.

Please specify this configuration on the order.

Position I: Filter 1 in operation
Position II: Filter 2 in operation



Weight: approx.: 714 lbs.

Dimensions: inches

Designs and performance values are subject to change.



Powering Business Worldwide

Duplex Pressure Filter

Series DWF 1505

232 PSI

Description:

Duplex filter series DWF 1505 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 25 µm, use the disposable elements made of microglass. Filter elements as fine as 3 µm are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 1505. 10VG. 10. E. P. -. FS. B. -. IS21.

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

KH. OE

12	13
----	----

1 series:

DWF = double welded filter, according to ASME-code

2 nominal size: 1505

3 filter material:

80G, 40G, 25G, 10G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
25API, 10API microglass according to API

4 filter element collapse rating:

10 = Δp 145 PSI

5 filter element design:

E = without by-pass
S = with by-pass valve Δp 29 PSI

6 sealing material:

P = Nitrile (NBR)
V = Viton (FPM)

7 filter element specification:

- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 process connection:

FS = SAE-flange 3000 PSI
FA11 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
(only with connection 5")
FA12 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 16 µm
(only with connection 5")

9 process connection size:

B = 4" (standard)
C = 5"

10 filter housing specification:

- = standard
IS12 = internal parts of change over armature stainless steel,
see sheet-no. 41028

11 specification pressure vessel:

IS21 = ASME VIII Div.1 with U-stamp, see sheet-no. 43415

12 shut-off :

- = without
KH = with shut-off ball valve

13 clogging indicator or clogging sensor:

- = without
AE = visual-electrical, see sheet-no. 1609
OP = visual, see sheet-no. 1614
OE = visual-electrical, see sheet-no. 1614
VS5 = sensor, see sheet-no. 1641

To add an indicator/sensor 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)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

1 series:

01E = filter element according to company standard

2 nominal size: 1501

3 - 7 see type index-complete filter

Accessories:

- drain- and bleeder connection, see sheet-no. 1651
- lifting mechanism, see sheet-no. 1662

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure acc. to ASME VIII Div. 1:	1,3 x operating pressure = 302 PSI
test pressure acc. to API 614, Chapter 1:	1,5 x operating pressure = 348 PSI
standard process connection:	SAE-flange 3000 PSI
housing material:	carbon steel (ASTM)
housing material change over 4":	carbon steel
housing material change over 5":	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	NPT 1/2"
measure connections:	BSPP 1/4"
operating pressure adapter flanges:	according to B16.5 CLASS 150 PSI

Classified under the Pressure Equipment Directive 2014/68/EC for mineral oil (fluid group 2), Article 4, Para. 3.
 Classified under ATEX Directive 2014/34/EC 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 Δp and the element Δp and is calculated as follows:

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

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

For ease of calculation, our Filter Selection tool is available online at: www.eatonpowersource.com/calculators/filtration/

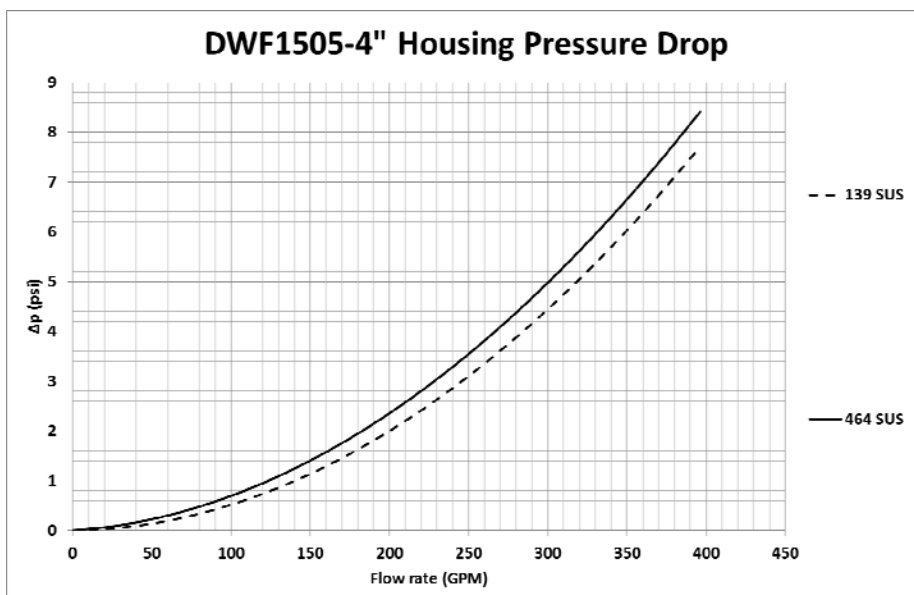
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10 API	25 API
1505	0.160	0.111	0.071	0.062	0.042	0.0058	0.0043	0.0040	0.0027	0.039	0.018

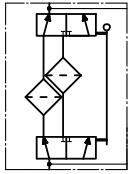
$\Delta p = f(Q)$ – characteristics according to ISO 3968

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. The flow curve for 5" available on request.

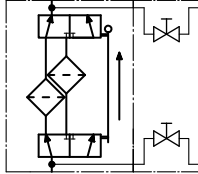


Symbol

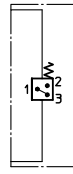
without indicator



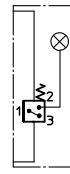
with shut-off ball valve



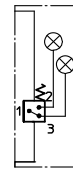
with electric indicator
AE 30 and AE 40



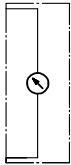
with visual-electric indicator
AE 50 and AE 62



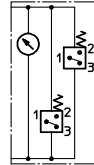
with visual-electric indicator
AE 70 and AE 80



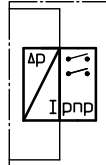
with visual indicator
OP



with visual-electric indicator
OE



with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.
1	2	filter element	01E.1501...	
2	2	O-ring	93 x 5	307588 (NBR) 307589 (FPM)
3	2	O-ring	9.975" ID x 0.210 CS	ST521Z6B (BUNA-N)
4	4	gasket kit of change over UKK 4"	4" (DN100)	347922 (FPM)
	4	gasket kit of change over UKK 5"	5" (DN125)	347921 (FPM)
5	6	screw plug	NPT 1/2"	ST260Z35
6	1	clogging indicator, visual-electric	AE	see sheet-no.1609
7	1	clogging indicator, visual	OP	see sheet-no 1614
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614
9	1	clogging sensor, electronic	VS5	see sheet-no 1641
10	3	O-ring	14 x 2	304342 (NBR)
				304722 (FPM)
11	1	O-ring	22 x 2	304708 (NBR)
				304721 (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

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Series DWF 3005

232 PSI

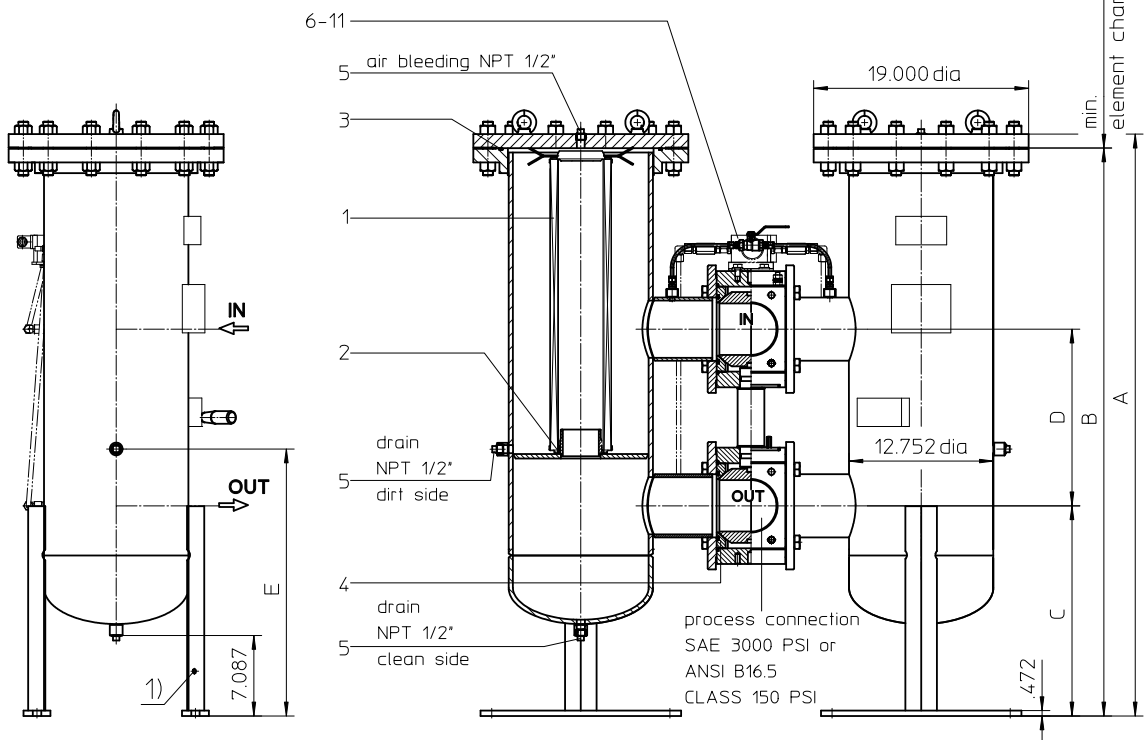
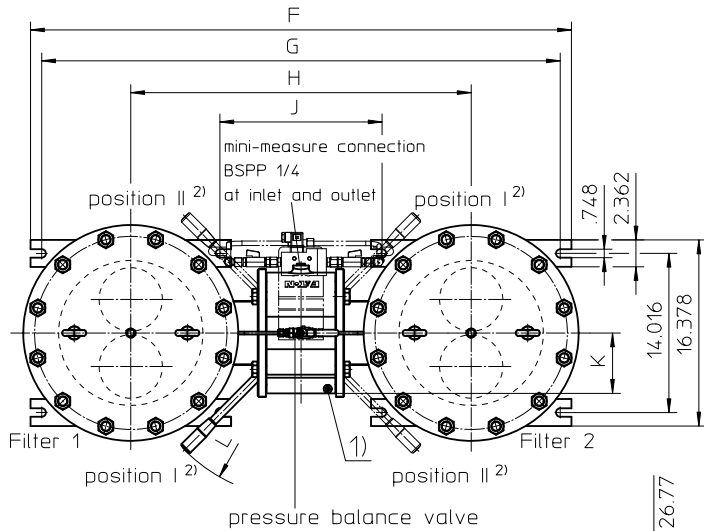
1) Connect the stand grounding tab to a suitable earth ground point.

Switch lever standard in the front.

2) On request: The switch lever can be moved to backside of the changeover valve, opposite to the inlet and outlet.

Please specify this configuration on the order.

Position I: Filter 1 in operation
Position II: Filter 2 in operation



Dimensions:

DWF 3005	A	B	C	D	E	F	G	H	J	K	L	weight lbs.	volume tank
connection 4"	51.22	50.00	18.50	14.37	23.50	46.37	40.41	28.66	12.91	5.00	14.56		2x 20 Gal.
connection 5"	51.22	50.00	18.50	15.55	23.50	47.79	45.82	30.07	14.33	5.31	14.56	1093	2x 20 Gal.
connection 6"	52.12	50.90	19.40	17.32	24.40	48.97	47.00	31.25	15.51	8.15	16.92		2x 21 Gal.

Dimensions: inches

Designs and performance values are subject to change.

Duplex Pressure Filter

Series DWF 3005

232 PSI

Description:

Duplex filter series DWF 3005 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 25 µm, use the disposable elements made of microglass. Filter elements as fine as 3 µm are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 3005. 10VG. 10. E. P. - . FS. C. - . IS21.

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

KH. OE

12	13
----	----

1 series:

DWF = double welded filter, according to ASME-code

2 nominal size: 3005

3 filter material:

80G, 40G, 25G, 10G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
25API, 10API microglass according to API

4 filter element collapse rating:

10 = Δp 145 PSI

5 filter element design:

E = without by-pass
S = with by-pass valve Δp 29 PSI

6 sealing material:

P = Nitrile (NBR)
V = Viton (FPM)

7 filter element specification:

- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 process connection:

FS = SAE-flange 3000 PSI (only with connection 4" and 5")
FA11 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
(only with connection 5" and 6")
FA12 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 16 µm
(only with connection 5" and 6")

9 process connection size:

B = 4"
C = 5" (standard)
D = 6"

10 filter housing specification:

- = standard
IS12 = internal parts of change over armature stainless steel,
see sheet-no. 41028

11 specification pressure vessel:

IS21 = ASME VIII Div.1 with U-stamp, see sheet-no. 43415

12 shut-off :

- = without
KH = with shut-off ball valve

13 clogging indicator or clogging sensor:

- = without
AE = visual-electrical, see sheet-no. 1609
OP = visual, see sheet-no. 1614
OE = visual-electrical, see sheet-no. 1614
VS5 = sensor, see sheet-no. 1641

To add an indicator/sensor 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)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

1 series:

01E = filter element according to company standard

2 nominal size: 1501

3 - 7 see type index-complete filter

Accessories:

- drain- and bleeder connection, see sheet-no. 1651
- lifting mechanism, see sheet-no. 1662

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure acc. to ASME VIII Div. 1:	1,3 x operating pressure = 302 PSI
test pressure acc. to API 614, Chapter 1:	1,5 x operating pressure = 348 PSI
standard process connection:	SAE-flange 3000 PSI
housing material:	carbon steel (ASTM)
housing material change over 4":	carbon steel
housing material change over 5" and 6":	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	NPT ½"
measure connections:	BSPP ¼"
operating pressure adapter flanges:	according to B16.5 CLASS 150 PSI

Classified under the Pressure Equipment Directive 2014/68/EC for mineral oil (fluid group 2), Article 4, Para. 3.
 Classified under ATEX Directive 2014/34/EC 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 Δp and the element Δp and is calculated as follows:

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

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

For ease of calculation, our Filter Selection tool is available online at: www.eatonpowersource.com/calculators/filtration/

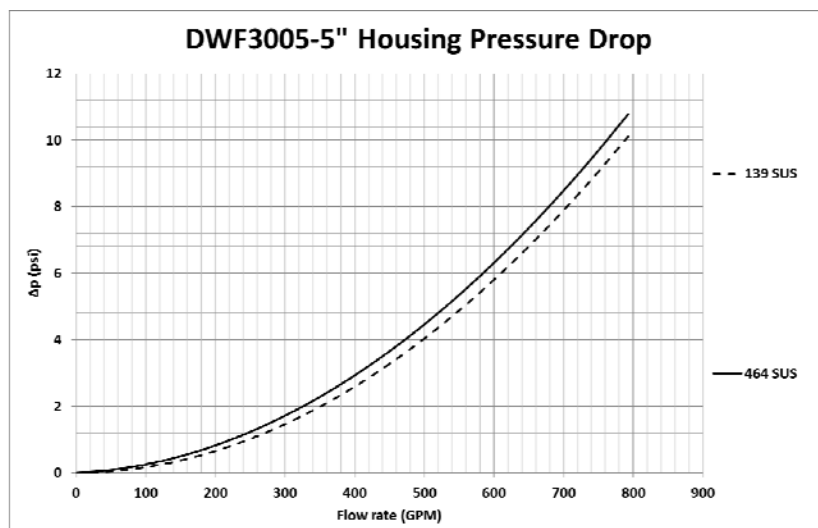
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10 API	25 API
3005	0.080	0.056	0.036	0.031	0.021	0.0029	0.0021	0.0020	0.0014	0.019	0.009

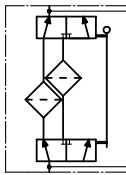
$\Delta p = f(Q)$ – characteristics according to ISO 3968

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. The flow curves for 4" and 6" available on request.

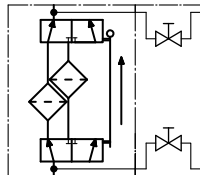


Symbol

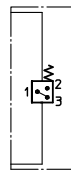
without indicator



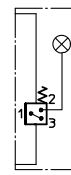
with shut-off ball valve



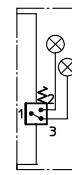
with electric indicator
AE 30 and AE 40



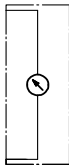
with visual-electric indicator
AE 50 and AE 62



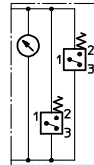
with visual-electric indicator
AE 70 and AE 80



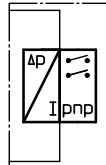
with visual indicator
OP



with visual-electric indicator
OE



with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	4	filter element	01E.1501...		
2	4	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	13.975" ID x 0.210 CS	2375017893 (BUNA-N)	
4	4	gasket kit of change over UKK 4"	4" (DN100)		347922 (FPM)
	4	gasket kit of change over UKK 5"	5" (DN125)		347921 (FPM)
	4	gasket kit of change over UKK 6"	6" (DN150)		347916 (FPM)
5	6	screw plug	NPT 1/2"	ST260Z35	
6	1	clogging indicator, visual-electric	AE	see sheet-no.1609	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1641	
10	3	O-ring	14 x 2	304342 (NBR)	304722 (FPM)
11	1	O-ring	22 x 2	304708 (NBR)	304721 (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

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Series DWF 4505

232 PSI

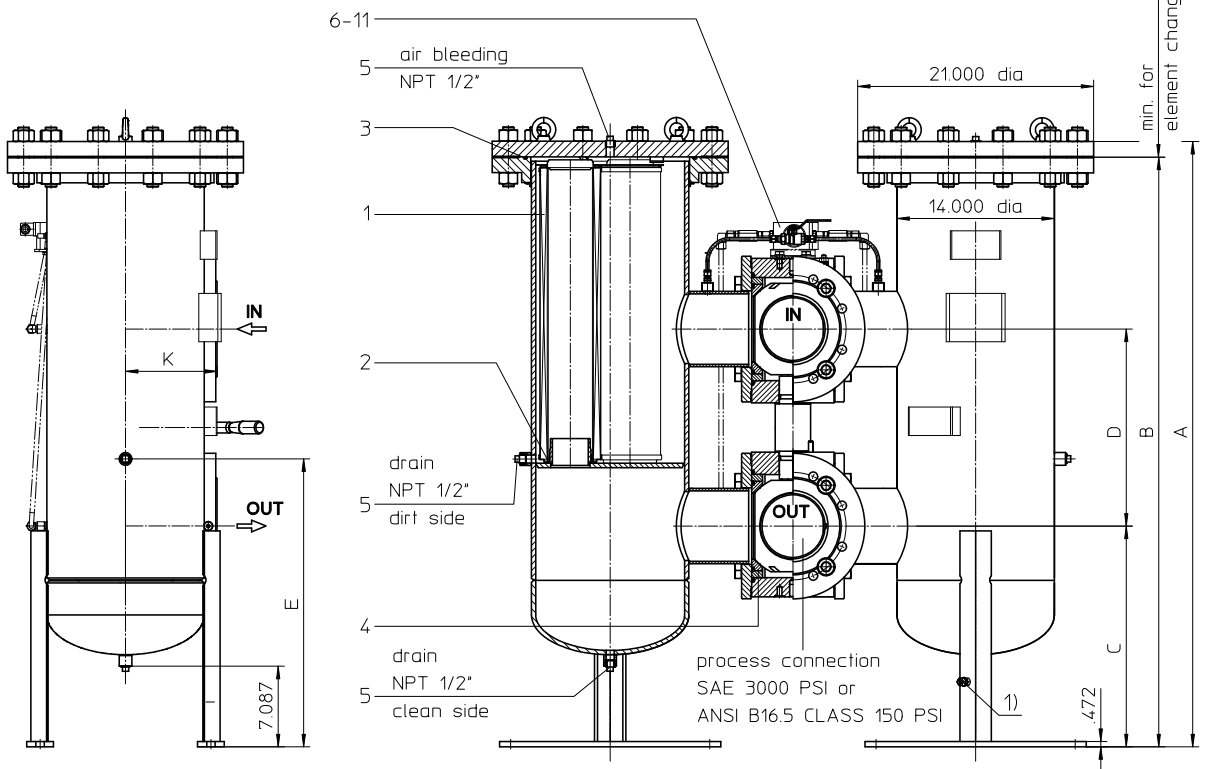
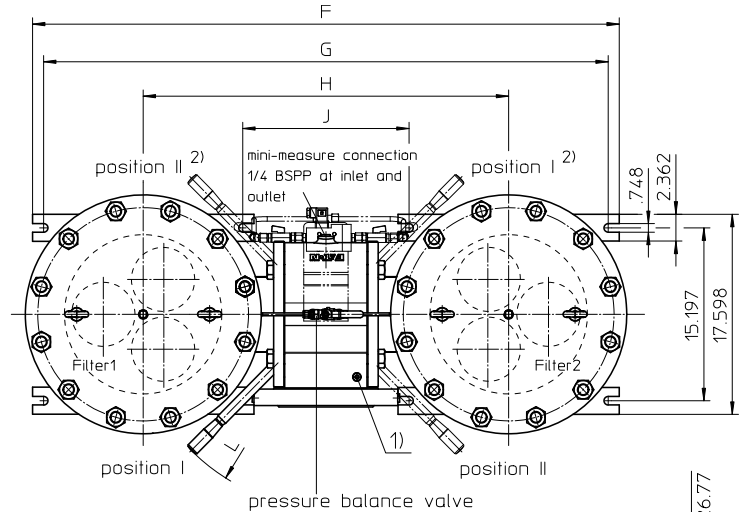
- 1) Connect the stand grounding tab to a suitable earth ground point.

Switch lever standard in the front.

- 2) On request: The switch lever can be moved to backside of the changeover valve, opposite to the inlet and outlet.

Please specify this configuration on the order.

Position I: Filter 1 in operation
Position II: Filter 2 in operation



Dimensions:

DWF 4505	A	B	C	D	E	F	G	H	J	K	L	weight lbs.	volume tank
connection 5"	53.22	51.85	19.40	15.55	25.31	51.02	49.05	31.33	13.62	5.31	14.56		2x 26 Gal.
connection 6"	53.22	51.85	19.40	17.32	25.31	52.20	50.23	32.52	14.80	8.15	16.92	1521	2x 26 Gal.
connection 8"	55.31	53.93	20.47	20.47	27.36	54.37	52.40	34.68	16.97	9.61	21.33		2x 28 Gal.

Dimensions: inches

Designs and performance values are subject to change.



Powering Business Worldwide

Duplex Pressure Filter

Series DWF 4505

232 PSI

Description:

Duplex filter series DWF 4505 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 25 µm, use the disposable elements made of microglass. Filter elements as fine as 3 µm are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 4505. 10VG. 10. E. P. - FA11. D. - IS21.

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

KH. OE

12	13
----	----

1 series:

DWF = double welded filter, according to ASME-code

2 nominal size: 4505

3 filter material:

80G, 40G, 25G, 10G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
25API, 10API microglass according to API

4 filter element collapse rating:

10 = Δp 145 PSI

5 filter element design:

E = without by-pass
S = with by-pass valve Δp 29 PSI

6 sealing material:

P = Nitrile (NBR)
V = Viton (FPM)

7 filter element specification:

- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 process connection:

FS = SAE-flange 3000 PSI (only with connection 5")
FA11 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
FA12 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 16 µm

9 process connection size:

C = 5"
D = 6" (standard)
E = 8"

10 filter housing specification:

- = standard
IS12 = internal parts of change over armature stainless steel,
see sheet-no. 41028

11 specification pressure vessel:

IS21 = ASME VIII Div.1 with U-stamp, see sheet-no. 43415

12 shut-off :

- = without
KH = with shut-off ball valve

13 clogging indicator or clogging sensor:

- = without
AE = visual-electrical, see sheet-no. 1609
OP = visual, see sheet-no. 1614
OE = visual-electrical, see sheet-no. 1614
VS5 = sensor, see sheet-no. 1641

To add an indicator/sensor 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)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

1 series:

01E = filter element according to company standard

2 nominal size: 1501

3 - 7 see type index-complete filter

Accessories:

- drain- and bleeder connection, see sheet-no. 1651
- lifting mechanism, see sheet-no. 1662

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure acc. to ASME VIII Div. 1:	1,3 x operating pressure = 302 PSI
test pressure acc. to API 614, Chapter 1:	1,5 x operating pressure = 348 PSI
standard process connection:	flange ANSI B16.5 CLASS 150 PSI
housing material:	carbon steel (ASTM)
housing material change over:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	NPT ½"
measure connections:	BSPP ¼"
operating pressure adapter flanges:	according to B16.5 CLASS 150 PSI

Classified under the Pressure Equipment Directive 2014/68/EC for mineral oil (fluid group 2), Article 4, Para. 3.
 Classified under ATEX Directive 2014/34/EC 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 Δp and the element Δp and is calculated as follows:

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) - \text{characteristics})$$

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

For ease of calculation, our Filter Selection tool is available online at: www.eatonpowersource.com/calculators/filtration/

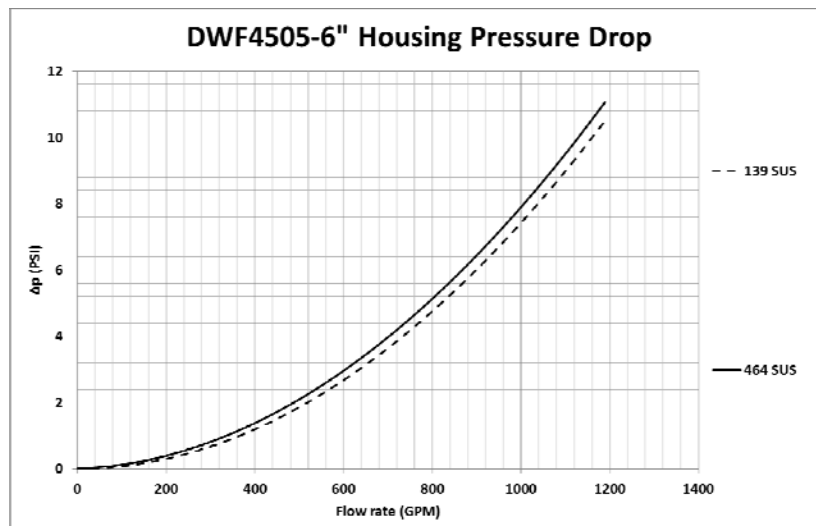
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10 API	25 API
4505	0.064	0.045	0.029	0.025	0.017	0.0024	0.0018	0.0016	0.0011	0.016	0.007

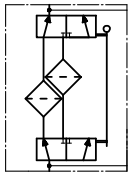
$\Delta p = f(Q)$ – characteristics according to ISO 3968

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. The flow curves for 5" and 8" available on request.

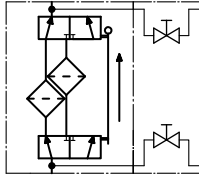


Symbols:

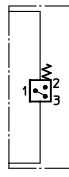
without indicator



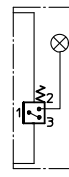
with shut-off ball valve



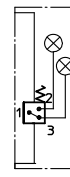
with electric indicator
AE 30 and AE 40



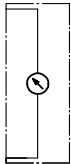
with visual-electric indicator
AE 50 and AE 62



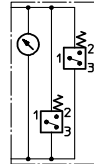
with visual-electric indicator
AE 70 and AE 80



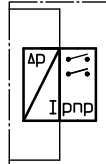
with visual indicator
OP



with visual-electric indicator
OE



with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	6	filter element	01E.1501...		
2	6	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	14.975" ID x 0.210 CS	2375017993 (BUNA-N)	
4	4	gasket kit of change over UKK 5"	5" (DN125)		347921 (FPM)
	4	gasket kit of change over UKK 6"	6" (DN150)		347916 (FPM)
	4	gasket kit of change over UKK 8"	8" (DN200)		347931 (FPM)
5	6	screw plug	NPT 1/2"	ST260Z35	
6	1	clogging indicator, visual-electric	AE	see sheet-no.1609	
7	1	clogging indicator, visual	OP	see sheet-no 1614	
8	1	clogging indicator, visual-electric	OE	see sheet-no 1614	
9	1	clogging sensor, electronic	VS5	see sheet-no 1641	
10	3	O-ring	14 x 2	304342 (NBR)	304722 (FPM)
11	1	O-ring	22 x 2	304708 (NBR)	304721 (FPM)

Test methods:

Filter elements are tested according to the following ISO standards:

ISO 2941	Verification of collapse/burst resistance
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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

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Series DWF 6005

232 PSI

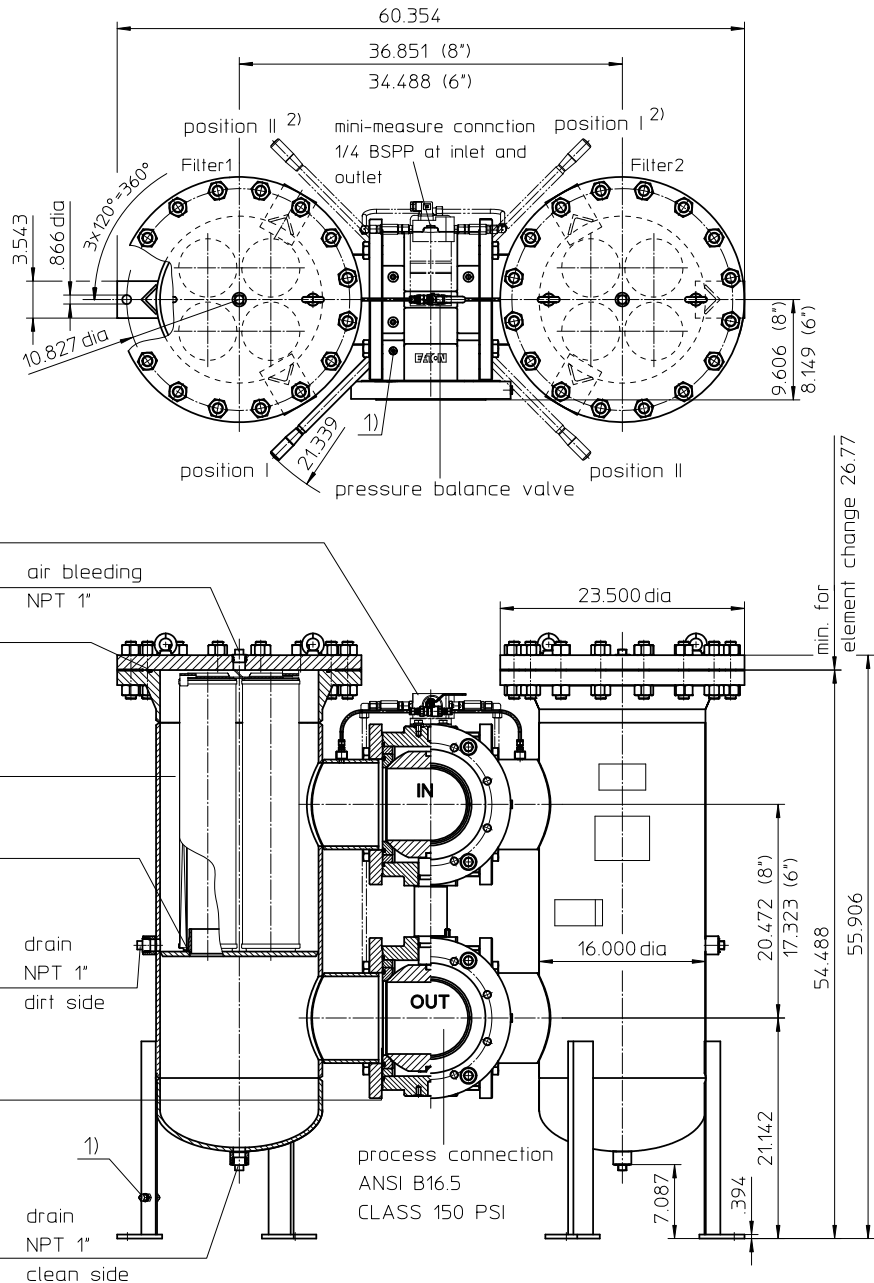
1) Connect the stand grounding tab to a suitable earth ground point.

Switch lever standard in the front.

2) On request: The switch lever can be moved to backside of the changeover valve, opposite to the inlet and outlet.

Please specify this configuration on the order.

Position I: Filter 1 in operation
Position II: Filter 2 in operation



Weight: approx. 1990 lbs.

Dimensions: inches

Designs and performance values are subject to change.



Powering Business Worldwide

Duplex Pressure Filter

Series DWF 6005

232 PSI

Description:

Duplex filter series DWF 6005 have a working pressure up to 232 PSI. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or return line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. Additionally, the depth filter has a metal outer core to protect the filter media. The flow direction is from outside to inside.

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

For filtration finer than 25 µm, use the disposable elements made of microglass. Filter elements as fine as 3 µm are available; finer filter elements are available upon request.

Eaton filter elements are known for high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter elements are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

Ship classifications available upon request.

Type index:

Complete filter: (ordering example)

DWF. 6005. 10VG. 10. E. P. - FA11. E. - IS21.

1	2	3	4	5	6	7	8	9	10	11
---	---	---	---	---	---	---	---	---	----	----

KH. OE

12	13
----	----

1 series:

DWF = double welded filter, according to ASME-code

2 nominal size: 6005

3 filter material:

80G, 40G, 25G, 10G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
25API, 10API microglass according to API

4 filter element collapse rating:

10 = Δp 145 PSI

5 filter element design:

E = without by-pass
S = with by-pass valve Δp 29 PSI

6 sealing material:

P = Nitrile (NBR)
V = Viton (FPM)

7 filter element specification:

- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 process connection:

FA11 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 160 µm (not finer than 40 µm)
FA12 = flange ANSI CLASS 150 PSI,
sealing surface Rz = 16 µm

9 process connection size:

D = 6"
E = 8" (standard)

10 filter housing specification:

- = standard
IS12 = internal parts of change over armature stainless steel,
see sheet-no. 41028

11 specification pressure vessel:

IS21 = ASME VIII Div.1 with U-stamp, see sheet-no. 43415

12 shut-off :

- = without
KH = with shut-off ball valve

13 clogging indicator or clogging sensor:

- = without
AE = visual-electrical, see sheet-no. 1609
OP = visual, see sheet-no. 1614
OE = visual-electrical, see sheet-no. 1614
VS5 = sensor, see sheet-no. 1641

To add an indicator/sensor 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)

01E. 1501. 10VG. 10. E. P. -

1	2	3	4	5	6	7
---	---	---	---	---	---	---

1 series:

01E = filter element according to company standard

2 nominal size: 1501

3 - 7 see type index-complete filter

Accessories:

- drain- and bleeder connection, see sheet-no. 1651
- lifting mechanism, see sheet-no. 1662

Technical data:

design temperature:	14 °F to +212 °F
operating temperature:	14 °F to +176 °F
operating medium	mineral oil, other media on request
max. operating pressure:	232 PSI
test pressure acc. to ASME VIII Div. 1:	1,3 x operating pressure = 302 PSI
test pressure acc. to API 614, Chapter 1:	1,5 x operating pressure = 348 PSI
standard process connection:	flange ANSI B16.5 CLASS 150 PSI
housing material:	carbon steel (ASTM)
housing material change over:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
drain- and bleeder connections:	NPT 1"
measure connections:	BSPP ¼"
volume tank:	2x 36 Gal.
operating pressure adapter flanges:	according to B16.5 CLASS 150 PSI

Classified under the Pressure Equipment Directive 2014/68/EC for mineral oil (fluid group 2), Article 4, Para. 3.
 Classified under ATEX Directive 2014/34/EC 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 Δp and the element Δp and is calculated as follows:

$$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$$

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

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

For ease of calculation, our Filter Selection tool is available online at: www.eatonpowersource.com/calculators/filtration/

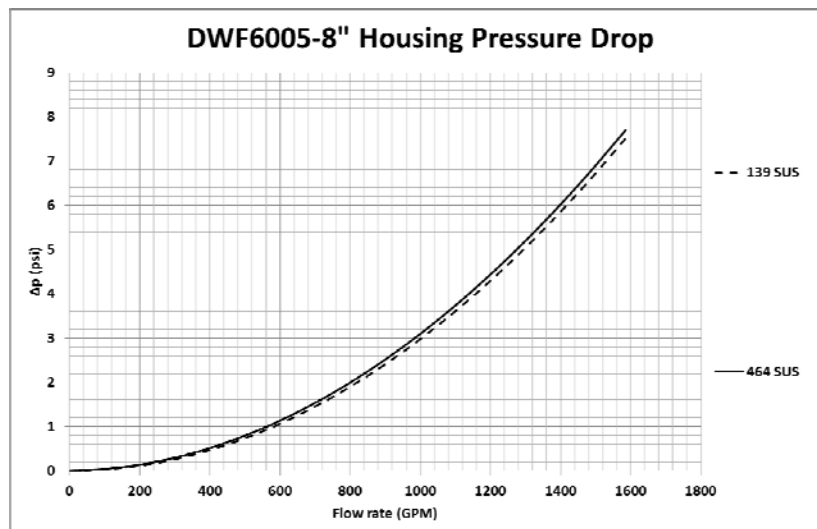
Material gradient coefficients (MSK) for filter elements

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.

DWF	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10 API	25 API
6005	0.048	0.033	0.021	0.019	0.013	0.0018	0.0013	0.0012	0.0008	0.012	0.005

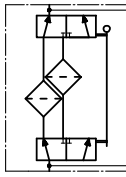
$\Delta p = f(Q)$ – characteristics according to ISO 3968

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. The flow curve for 6" available on request.

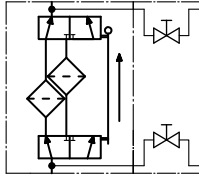


Symbols:

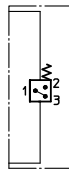
without indicator



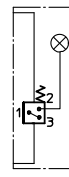
with shut-off ball valve



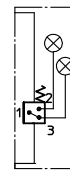
with electric indicator
AE 30 and AE 40



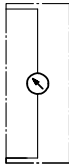
with visual-electric indicator
AE 50 and AE 62



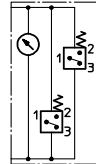
with visual-electric indicator
AE 70 and AE 80



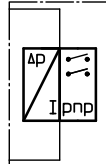
with visual indicator
OP



with visual-electric indicator
OE



with electronic sensor
VS5



Spare parts:

item	qty.	designation	dimension	Article-no.	
1	8	filter element	01E.1501...		
2	8	O-ring	93 x 5	307588 (NBR)	307589 (FPM)
3	2	O-ring	17" ID x 0.210 CS	2375017093 (BUNA-N)	
4	4	gasket kit of change over UKK 6"	6" (DN150)		347916 (FPM)
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