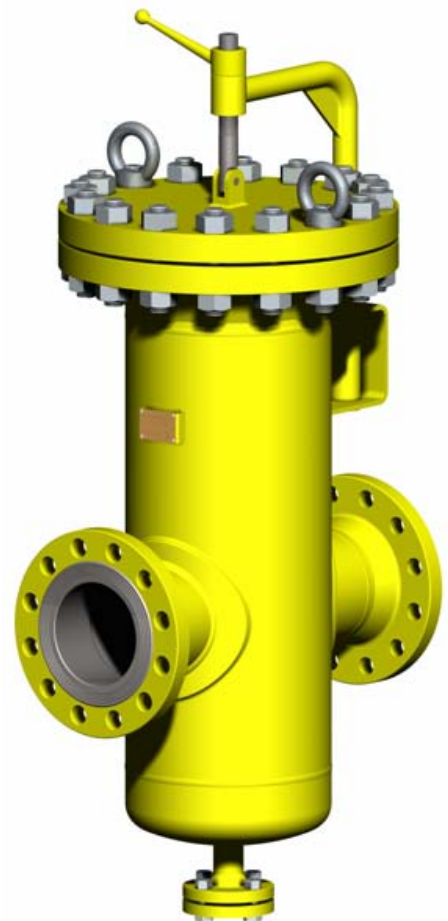


GAS FILTERS FTG 600



Introduction

FTG 600 impurity filters are used in all situations that require the filtration of natural gases (gas regulating and metering stations, delivery stations) and have the role of retaining the solid particles in the gas flow. The particles accumulate at the lower part of the filter body are periodically drained.

FTG 600 filters are mounted before the metering and control lines, usually within a filtration skid in order to allow the filtering cartridge to be replaced without stopping gas supply.

Operation

The gas flows through the inlet and reaches the filter body where velocity is reduced. As a result, solid particles of large dimensions as well as the liquid ones separate from the gas and accumulate at the bottom of the vessel from where they can be periodically purged through the purging connection.

As the gas flows through the filter element from outside to inside, residual solid particles are retained (depending on the rating of the filtering cartridge screen).

The clean gas flows towards the outlet.

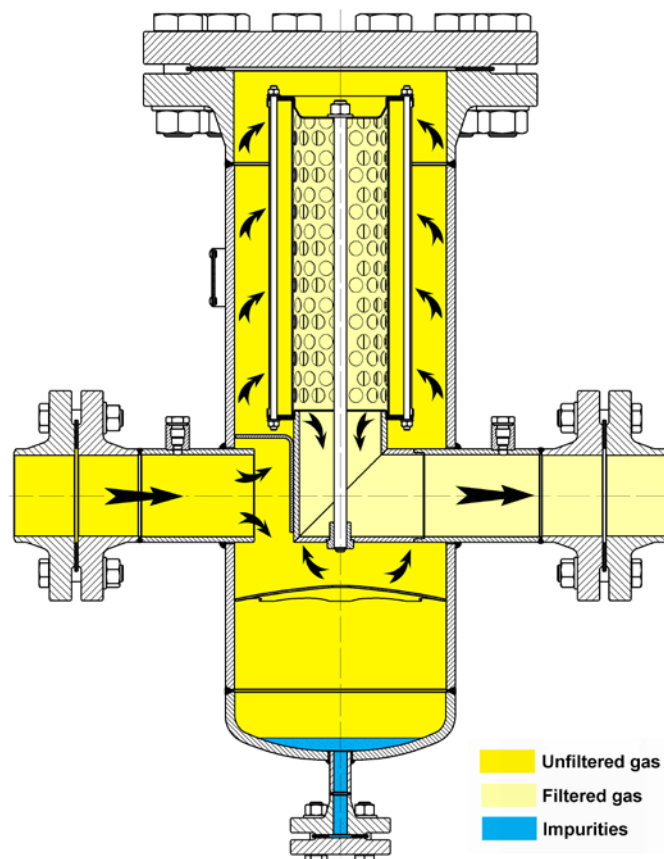


Figure 1 – FTG operation

Technical characteristics

The filters are designed for natural gases or other non-aggressive gases.

Filter main parameters:

- nominal pressure Pn 6, 16, 25, 40, 64, 100 bar
- nominal diameter DN 25 ÷ DN 500
- working temperature -10 ÷ 60 °C (optionally, -20 ÷ 60)*
- ambient temperature -20 ÷ 80 °C (optionally, -30 ÷ 80)*
- collection capacity min 12% of the filter total capacity
- filtering cartridge
 - stainless steel screen (filtration rating 100÷300 µm)
 - cellulose cartridge (filtration rating 5÷50 µm)
 - polyester (filtration rating 5÷50 µm)
 - glass fiber (filtration rating 3÷10 µm) – on request
 - polypropylene (filtration rating 3÷50 µm) – on request
- efficiency 98%
- filter cover
 - blind flange (FTG 601)
 - quick opening closure (FTG 602)

* On request, lower temperatures can be considered.

Main features

- high flow rates, high filtration rating and high efficiency;
- maximum pressure drop is 500 mbar over the clean cartridge pressure drop; however, cartridge change is recommended between 200 and 300 mbar over the clean cartridge pressure drop;
- easy and safe maintenance;
- the filter is automatically depressurized before removing the quick opening closure;
- wide range of dimensions, special sizes and configurations available on request;
- in conformity with Pressure Equipment Directive (97/23/EC);
- on request, any other standards (ASME, DIN) can be complied with;
- on request, automatic purging can be easily installed.

Optional accessories

- Drain
 - o manual: valve
 - o automatic: control drainer
- Filter clogging degree
 - o differential pressure gauge
 - o contact differential pressure gauge
 - o differential pressure gauge with 4 - 20 mA signal
- Filter pressure
 - o pressure gauge
- Filter connection to the pipeline system
 - o Counter flanges, gasket, fasteners

Constructive variants and dimensions

The variants for filter connections layout are shown in Figure 2. Regularly, the filters are manufactured with the inlet and outlet connections disposed at 180° in the same vertical plan (variant a). Other models (b, c, d, e, f) are executed on request.

On request, the filter can be manufactured based on other standards as well.

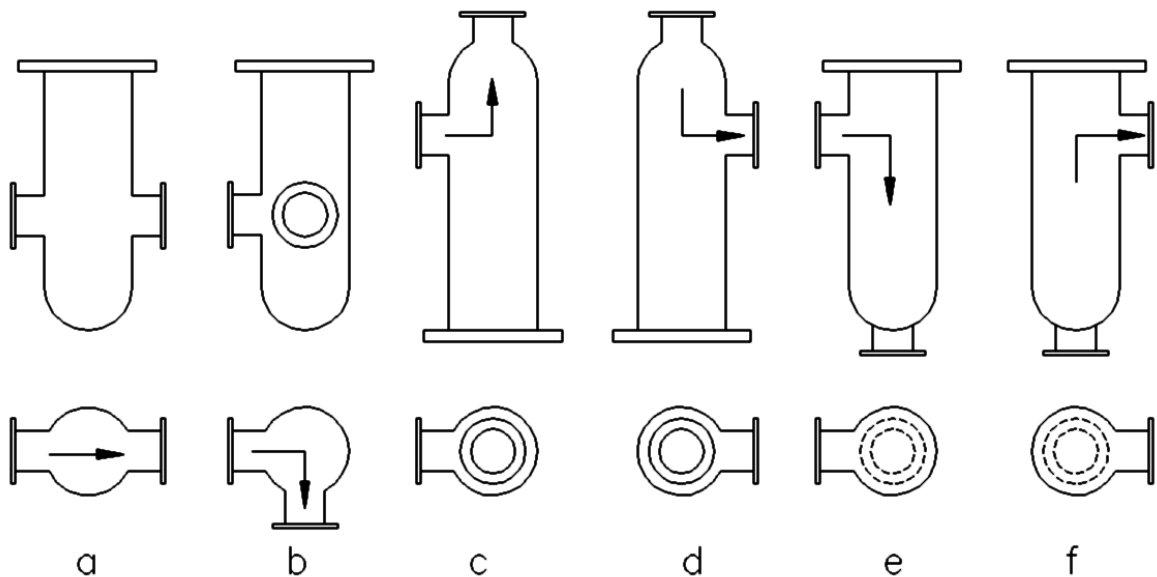


Figure 2 – Constructive variants

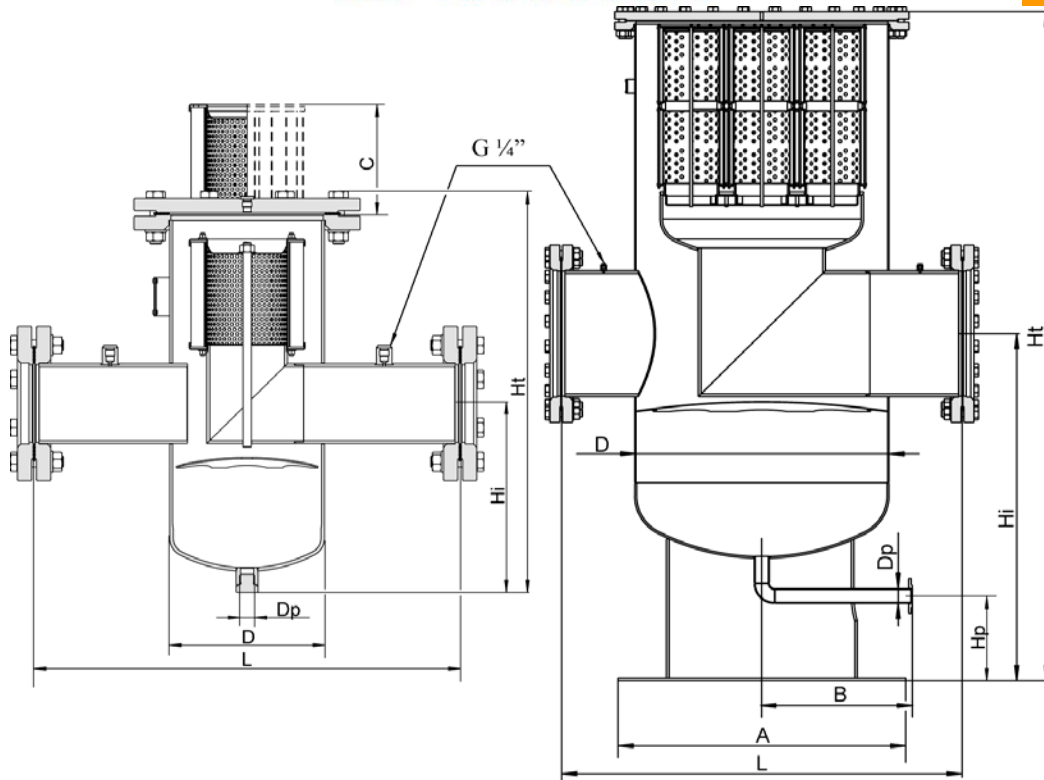


Figure 3 – Overall dimensions for PN 6, PN 16

Table 1 – FTG 600 filters – PN 6, PN 16

| Nominal diameter | D | L | Ht | Hi | Hp | Dp | A | B | C | Weight | Filtering surface* |
|------------------|------|------|------|------|------|------|------|------|------|--------|--------------------|
| [DN] | [mm] | [mm] | [mm] | [mm] | [mm] | [DN] | [mm] | [mm] | [mm] | [kg] | [m ²] |
| 25 | 141 | 350 | 426 | 177 | - | G ½ | - | - | 160 | 24 | 0.1125 |
| 32 | 141 | 350 | 439 | 186 | - | G ½ | - | - | 160 | 28 | 0.1125 |
| 40 | 141 | 400 | 434 | 177 | - | G ½ | - | - | 160 | 29 | 0.1125 |
| 50 | 168 | 400 | 479 | 213 | - | G ½ | - | - | 160 | 36 | 0.1125 |
| 65 | 168 | 450 | 500 | 234 | - | G ½ | - | - | 160 | 41 | 0.15 |
| 80 | 219 | 550 | 563 | 270 | - | G ½ | - | - | 160 | 54 | 0.15 |
| 100 | 219 | 600 | 563 | 270 | - | G ½ | - | - | 160 | 60 | 0.15 |
| 125 | 324 | 700 | 863 | 360 | - | G1 | - | - | 310 | 110 | 0.45 |
| 150 | 324 | 750 | 933 | 420 | - | G1 | - | - | 310 | 125 | 0.45 |
| 200 | 406 | 750 | 1023 | 480 | - | G1 | - | - | 310 | 181 | 0.69 |
| 250 | 508 | 900 | 1358 | 594 | - | G1 | - | - | 510 | 295 | 1.25 |
| 300 | 508 | 900 | 1416 | 650 | - | G1 | - | - | 510 | 330 | 1.25 |
| 400 | 813 | 1300 | 2470 | 1220 | 250 | 50 | 945 | 500 | 620 | 1011 | 6.30 |
| 500 | 1016 | 1600 | 2610 | 1310 | 250 | 50 | 1150 | 600 | 620 | 1533 | 9.66 |

*Note: The filters with the maximum allowable pressure 6 bar are equipped with PN16 flanges.

The filtering surface depends on the filtering material type.

Table 1 lists the values corresponding to the filtering cartridges made of expanded stainless steel plate.

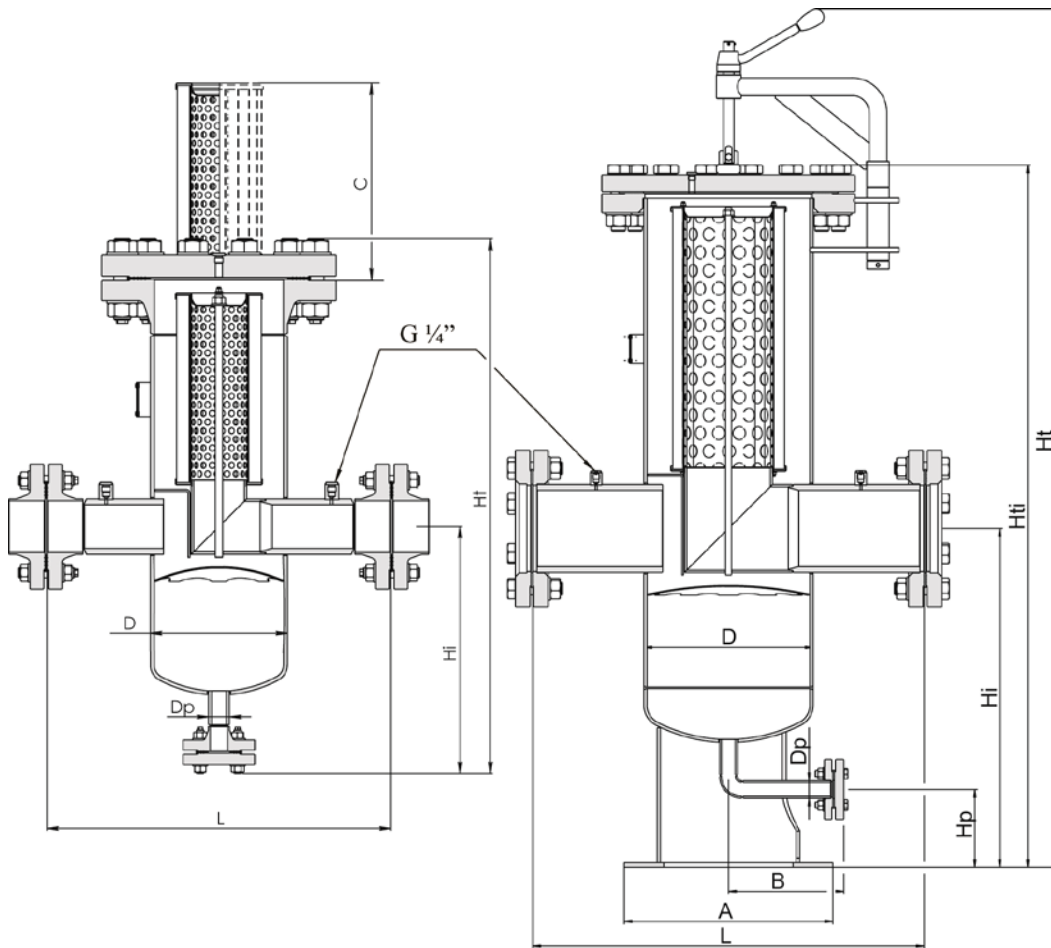


Figure 4 – Overall dimensions for PN25, PN40, PN64

Table 2 – FTG 600 filters - PN 25

| Nominal Diameter | D | L | Ht | Hti | Hi | Hp | Dp | A | B | C | Weight | Filtering surface* |
|------------------|------|------|------|------|------|------|------|------|------|------|--------|--------------------|
| [DN] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [DN] | [mm] | [mm] | [mm] | [kg] | [m ²] |
| 25 | 141 | 350 | 440 | - | 180 | - | G ½ | - | - | 160 | 36 | 0.1125 |
| 32 | 141 | 350 | 449 | - | 185 | - | G ½ | - | - | 160 | 40 | 0.1125 |
| 40 | 141 | 350 | 453 | - | 190 | - | G ½ | - | - | 160 | 42 | 0.1125 |
| 50 | 168 | 400 | 685 | - | 260 | - | G ½ | - | - | 310 | 58 | 0.225 |
| 65 | 168 | 400 | 702 | - | 270 | - | G ½ | - | - | 310 | 64 | 0.3 |
| 80 | 219 | 550 | 744 | - | 300 | - | G ½ | - | - | 310 | 76 | 0.3 |
| 100 | 219 | 600 | 775 | - | 320 | - | G ½ | - | - | 310 | 104 | 0.3 |
| 125 | 324 | 700 | 1623 | 1324 | 630 | 150 | 25 | 400 | 220 | 510 | 230 | 0.75 |
| 150 | 324 | 750 | 1646 | 1347 | 650 | 150 | 25 | 400 | 220 | 510 | 245 | 0.75 |
| 200 | 406 | 750 | 1791 | 1453 | 715 | 150 | 25 | 520 | 250 | 510 | 395 | 1.15 |
| 250 | 508 | 900 | 2019 | 1627 | 815 | 150 | 40 | 640 | 300 | 510 | 626 | 1.25 |
| 300 | 508 | 900 | 2064 | 1672 | 850 | 150 | 40 | 640 | 300 | 510 | 663 | 1.25 |

Table 3 – FTG 600 filters - PN40

| Nominal diameter | D | L | Ht | Hti | Hi | Hp | Dp | A | B | C | Weight | Filtering surface* |
|------------------|------|------|------|------|------|------|------|------|------|------|--------|--------------------|
| [DN] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [DN] | [mm] | [mm] | [mm] | [kg] | [m ²] |
| 25 | 141 | 350 | 453 | - | 180 | - | G ½ | - | - | 160 | 39 | 0.1125 |
| 32 | 141 | 350 | 457 | - | 185 | - | G ½ | - | - | 160 | 42 | 0.1125 |
| 40 | 141 | 400 | 462 | - | 190 | - | G ½ | - | - | 160 | 44 | 0.1125 |
| 50 | 168 | 450 | 693 | - | 260 | - | G ½ | - | - | 310 | 63 | 0.225 |
| 65 | 168 | 450 | 710 | - | 270 | - | G ½ | - | - | 310 | 69 | 0.3 |
| 80 | 219 | 550 | 851 | - | 360 | - | 25 | - | - | 310 | 115 | 0.3 |
| 100 | 219 | 600 | 884 | - | 380 | - | 25 | - | - | 310 | 129 | 0.3 |
| 125 | 324 | 700 | 1623 | 1343 | 630 | 150 | 25 | 400 | 220 | 510 | 284 | 0.75 |
| 150 | 324 | 750 | 1650 | 1370 | 650 | 150 | 25 | 400 | 220 | 510 | 303 | 0.75 |
| 200 | 406 | 800 | 1791 | 1476 | 715 | 150 | 25 | 520 | 250 | 510 | 536 | 1.15 |
| 250 | 508 | 1000 | 2019 | 1654 | 815 | 150 | 40 | 640 | 300 | 510 | 836 | 1.25 |
| 300 | 508 | 1050 | 2050 | 1699 | 850 | 150 | 40 | 640 | 300 | 510 | 915 | 1.25 |

Table 4 – FTG 600 filters - PN 64

| Nominal diameter | D | L | Ht | Hti | Hi | Hp | Dp | A | B | C | Weight | Filtering surface* |
|------------------|------|------|------|------|------|------|------|------|------|------|--------|--------------------|
| [DN] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [DN] | [mm] | [mm] | [mm] | [kg] | [m ²] |
| 25 | 141 | 450 | 531 | - | 225 | - | 15 | - | - | 160 | 60 | 0.1125 |
| 32 | 141 | 450 | 546 | - | 263 | - | 15 | - | - | 160 | 64 | 0.1125 |
| 40 | 141 | 450 | 547 | - | 266 | - | 15 | - | - | 160 | 68 | 0.1125 |
| 50 | 168 | 500 | 778 | - | 337 | - | 15 | - | - | 310 | 96 | 0.225 |
| 65 | 168 | 500 | 793 | - | 374 | - | 15 | - | - | 310 | 105 | 0.3 |
| 80 | 219 | 600 | 881 | - | 414 | - | 25 | - | - | 310 | 161 | 0.3 |
| 100 | 219 | 650 | 911 | - | 434 | - | 25 | - | - | 310 | 180 | 0.3 |
| 125 | 324 | 750 | 1623 | 1352 | 630 | 150 | 25 | 400 | 223 | 510 | 373 | 0.75 |
| 150 | 324 | 800 | 1650 | 1379 | 650 | 150 | 25 | 400 | 223 | 510 | 413 | 0.75 |
| 200 | 406 | 900 | 1791 | 1487 | 715 | 150 | 25 | 520 | 250 | 510 | 701 | 1.15 |
| 250 | 508 | 1100 | 2021 | 1675 | 815 | 150 | 40 | 640 | 300 | 510 | 1140 | 1.25 |
| 300 | 508 | 1150 | 2066 | 1720 | 850 | 150 | 40 | 640 | 300 | 510 | 1249 | 1.25 |

* Note: The filtering surface depends on the filtering material type.

Tables 2, 3, 4 list the values corresponding to the filtering cartridges made of expanded stainless steel plate.

The filters with DN greater than 100 mm are equipped with a support leg. On request, the filters can be equipped with a cover lifting arm.

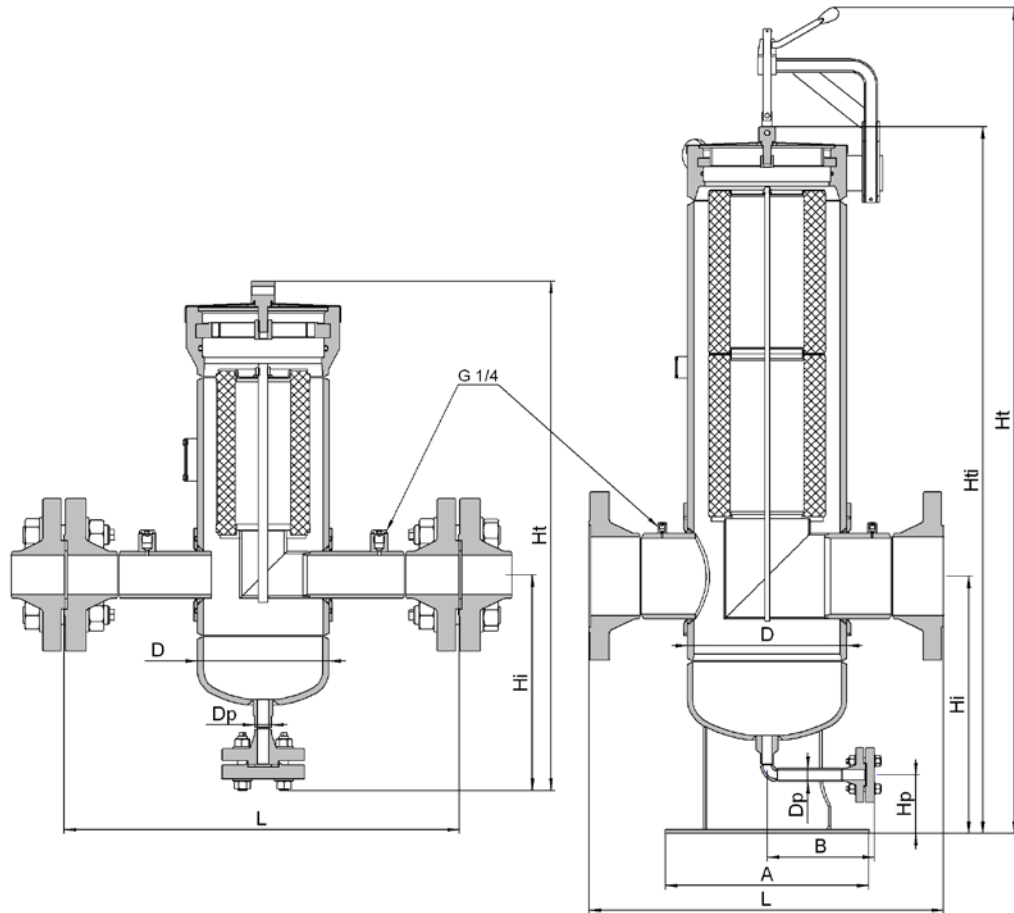


Figure 5 – Overall dimensions for FTG PN 100

Table 5 - FTG 600 filters - PN100

| Nom Diam | Cartridge | D | L | Ht | Hti | Hi | Hp | Dp | A | B | C | Weight | Filtering surface |
|----------|-----------|------|------|------|------|------|------|------|------|------|------|--------|-------------------|
| [DN] | - | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [DN] | [mm] | [mm] | [mm] | [kg] | [m ²] |
| 25 | 1xG1 | 141 | 450 | 542 | - | 243 | - | 15 | - | - | 165 | 24 | 0,125 |
| 25 | 2xG1 | 141 | 450 | 711 | - | 243 | - | 15 | - | - | 165 | 28,4 | 0,25 |
| 32 | 1xG1 | 141 | 450 | 545 | - | 246 | - | 15 | - | - | 165 | 25,5 | 0,125 |
| 32 | 2xG1 | 141 | 450 | 714 | - | 246 | - | 15 | - | - | 165 | 29,9 | 0,25 |
| 40 | 1xG1 | 141 | 450 | 556 | - | 251 | - | 15 | - | - | 165 | 28 | 0,125 |
| 40 | 2xG1 | 141 | 450 | 725 | - | 251 | - | 15 | - | - | 165 | 32,3 | 0,25 |
| 50 | 1xG1,5 | 168 | 500 | 651 | - | 276 | - | 15 | - | - | 212 | 42,7 | 0,23 |
| 50 | 2xG1,5 | 168 | 500 | 865 | - | 276 | - | 15 | - | - | 212 | 50 | 0,46 |
| 65 | 1xG1,5 | 168 | 500 | 676 | - | 288 | - | 15 | - | - | 212 | 48 | 0,23 |
| 65 | 2xG1,5 | 168 | 500 | 890 | - | 288 | - | 15 | - | - | 212 | 55,3 | 0,46 |
| 80 | 1xG2 | 219 | 600 | 834 | - | 362 | - | 25 | - | - | 272 | 80 | 0,47 |
| 80 | 2xG2 | 219 | 600 | 1108 | - | 362 | - | 25 | - | - | 272 | 95 | 0,94 |
| 100 | 1xG2 | 219 | 650 | 868 | - | 386 | - | 25 | - | - | 272 | 92 | 0,47 |
| 100 | 2xG2 | 219 | 650 | 1142 | - | 386 | - | 25 | - | - | 272 | 108 | 0,94 |
| 125 | 2xG3 | 324 | 750 | 1437 | 1432 | 540 | 149 | 25 | 399 | 223 | 324 | 250 | 1,9 |
| 150 | 2xG3 | 324 | 800 | 1469 | - | 564 | 149 | 25 | 399 | 223 | 324 | 267 | 1,9 |
| 200 | 2xG4 | 406 | 900 | 2111 | 1807 | 658 | 150 | 25 | 520 | 273 | 417 | 482 | 2,9 |
| 250 | 2xG5 | 508 | 1100 | 2377 | 200 | 768 | 148 | 40 | 640 | 325 | 472 | 838 | 4,6 |
| 300 | 2xG5 | 508 | 1150 | 2422 | 2117 | 791 | 149 | 40 | 640 | 325 | 472 | 924 | 8,4 |

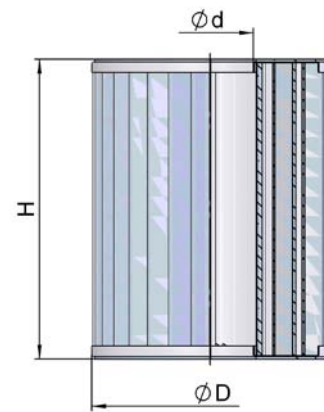
Filter cartridges type G

Material: polyester felt with aluminum support mesh

Filtration rating: 5 – 25 – 50 µm

Dimensions:

| TYPE | G 1 | G 1,5 | G 2 | G 2,5 | G 3 | G 4 | G 5 | G 6 |
|----------------------------------|-------|-------|------|-------|------|------|------|------|
| H [mm] | 157 | 202 | 252 | 275 | 312 | 407 | 462 | 617 |
| ØD [mm] | 95 | 120 | 165 | 200 | 252 | 299 | 390 | 475 |
| Ød [mm] | 50 | 69 | 86 | 110 | 138 | 186 | 246 | 320 |
| Filtering area [m ²] | 0.125 | 0.23 | 0.47 | 0.725 | 0.95 | 1.45 | 2.30 | 4.20 |



Ordering code

The filters can be identified by specifying the type, the nominal dimension of the inlet-outlet connections and the maximum working pressure.

| FTG | 6 | 0 | X | X | X | Descrizione |
|-----|---|---|---|-----|----------|-----------------------|
| | | | 1 | | | blind flange |
| | | | 2 | | | quick opening closure |
| | | | | 025 | | DN25 |
| | | | | 032 | | DN32 |
| | | | | 040 | | DN40 |
| | | | | 050 | | DN50 |
| | | | | 065 | | DN65 |
| | | | | 080 | | DN80 |
| | | | | 100 | | DN100 |
| | | | | 125 | | DN125 |
| | | | | 150 | | DN150 |
| | | | | 200 | | DN200 |
| | | | | 250 | | DN250 |
| | | | | 300 | | DN300 |
| | | | | 400 | | DN400 |
| | | | | 500 | | DN500 |
| | | | | | 06 | PN6 |
| | | | | | 16 | PN16 |
| | | | | | 25 | PN25 |
| | | | | | 40 | PN40 |
| | | | | | 64 | PN64 |
| | | | | | 100 | PN100 |
| | | | | | ANSI 150 | ANSI class 150 |
| | | | | | ANSI 300 | ANSI class 300 |
| | | | | | ANSI 400 | ANSI class 400 |
| | | | | | ANSI 600 | ANSI class 600 |

For instance, FTG 601-50-25 ordering code designates an FTG601 filter with DN50 flanged connections and maximum working pressure 25 bar.

When ordering, please specify the filtration rating. Additional requirements, if any, must be specified when placing the order.

The manufacturer reserves the right to make modifications without any prior notification.

CT No. 185 / 2009 /01

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