

CHARACTERISTICS:

- Construction materials: Carbon steel Stainless steel (other materials available as option).
- Design according to: ASME Sect. VIII Div. 1 EN 13445 (other calculation code available as option).
- Conform to 2014/68/UE PED Directive
- Conform to 2014/34/UE ATEX Directive
- Available with U-Stamp certification
- Top cover closure:
 - ANSI or EN flanges Swing bolts - eye bolts type Quick opening closure yoke or band-lock type.
- Available for pressure up to 2500# rating
- Vertical or horizontal arrangement
- Suitable for natural or process gas filtration
- In/out connections up to 36" (DN 900)
- Available in four different arrangements: GC: vertical gas-liquid coalescer cartridges SG/V: vertical double stage gas-liquid separator SG/H: horizontal double stage gas-liquid separator CY: double stage vertical gas-liquid separator with multiple mini cyclones and coalescer cartridges AS: vertical gas-liquid absolute separator.
- Special design with demister and/or inlet gas distributor device
- High liquid separation efficiency even in the presence of caustic or amine
- Minimal initial pressure drop



LG COALESCER FILTERS GAS-LIQUID TAILOR MADE

MAIN APPLICATIONS:

- OIL & GAS
- PETROCHEMICAL
- FINE CHEMICAL
- **POWER GENERATION**
- STEEL MILL





TECHNICAL DATA

CONSTRUCTION MATERIALS

- Body:
- Carbon steel
- 304/L-SS
- 316/L-SS
- Duplex SS
- other materials available
- Raiser and tubesheet:
- Carbon steel
- 304/L-SS
- 316/L-SS
- Duplex SS

GASKETS

- SRIRALWOUND
- KLINGERSIL
- BUNA-N
- VITON
- RING JOINT

IN/OUT

- Up to 36"

DESIGN PRESSURE

- Up to 2500#

ACCESSORIES

- DIFFERENTIAL PRESSURE GAUGE
- DIFFERENTIAL PRESSURE SWITCH
- DIFFERENTIAL PRESSURE
- TRANSMITTER
- VENT VALVE
- DREAIN VALVE
- PRESSURE SAFETY VALVE
- AUTOMATIC LIQUID DRAIN
- LEVEL CONTROLS

In the current processes of extraction, transportation and treatment of gas it is becoming increasingly important to remove the liquids present to reduce maintenance costs associated with problems generated by their presence.

An efficient removal of liquid present in the gas streams, allows to adequately protect costly equipment such as compressors, turbines, valves and burners; also allows to protect the catalysts beds or reduce the tendency of foams formation in amines treatment plants.

Last, but not least, the presence of liquids facilitates the clogging of heat exchangers with subsequent reduction of the thermal exchange capacity.

To solve the problem of liquids separation from gas streams, ASCO Filtri is able to provide different solutions in relation to the problem:

- Coalescer filters with cartridges
- Vertical or horizontal double stage gas separators
- Double stage absolute gas separators

Coalescer filters separation capabilities:

Gas/liquid coalescing systems are designed to provide an adequate solution to the many problems of separation.

The choice of coalescing filter type is a function of the presence of solids, liquids, and the efficiency of separation required.

| | VANE EXTRACTOR | CYCLONES | CARTRIDGES COALESCER | GAS SEPARATOR | ABSOLUTE SEPARATOR |
|--------------------------|-------------------|----------|-------------------------|------------------|-----------------------|
| LIQUIDS QUANTITY | HIGH | HIGH | MEDIUM-HIGH | MEDIUM | HIGH |
| SOLIDS QUANTITY | VERY LOW | HIGH | LOW | HIGH | VERY LOW |
| SEPARATION EFFICIENCY | MEDIUM-LOW | HIGH | VERY HIGH | HIGH | VERY HIGH |
| INITIAL PRESSURE DROP | VERY LOW | HIGH | LOW | MEDIUM | MEDIUM |
| TURN-DOWN | 30% - 50% | 30% | VERY HIGH | 50% | 50% |

Many types of quick opening closure, to facilitate the replacement of the filtering elements, can be applied to LG coalescing filters:

- V opening type with single hand wheel and jaw,
- mechanical sector type,
- threaded, etc.

All quick opening closure installed on ASCO Filtri equipment comply with ASME standards.

All quick opening closure used on ASCO Filtri equipment are accompanied by safety device that prevents the opening of the closure with the filter under pressure, as required by ASME code.

ASCO Filtri S.p.A.



GC series dimensions: 152GCV - GLP 640 cartridges 116GCV - GLP 336 cartridges

| Coalescer | filter model | | [| Dimens | ions (m | ım] | | | ♣ |
|--------------------|--------------------|--------|------|--------|---------|-----|--------|---|----------|
| GLP 640 cartridges | GLP 336 cartridges | А | В | С | D | Е | In/out | Ē | |
| 152GCTV014CZ02A | 116GCTV014CZ02A | 219.1 | 520 | 1170 | 1850 | 300 | 2" | щ | |
| 152GCTV014CZ03A | 116GCTV024CZ03A | 273.0 | 560 | 1220 | 1850 | 320 | 3" | | |
| 132GC1V014C203A | 116GCTV044CZ03 | 355.6 | 700 | 1230 | 1850 | 320 | 3" | | |
| 152GCTV034CZ04A | 116GCTV074CZ04A | 406.4 | 820 | 1250 | 1900 | 350 | 4" | | B |
| 152GCTV044CZ04A | 116GCTV074CZ04A | 457.2 | 870 | 1270 | 1900 | 350 | 4" | | ØA |
| 152GCTV054CZ04A | 116GCTV094CZ04A | 508.0 | 900 | 1270 | 1900 | 350 | 4" | | - 04 |
| 152GCTV074CZ06A | 116GCTV124CZ06A | 558.8 | 960 | 1280 | 2000 | 400 | 6" | | - @H |
| 152GCTV084CZ06A | 116GCTV154CZ06A | 609.6 | 1050 | 1320 | 2110 | 420 | 6" | | Ŷ |
| 152GCTV094CZ06A | 116GCTV174CZ06A | 660.4 | 1100 | 1350 | 2110 | 420 | 6" | | F |
| 152GCTV124CZ06A | 116GCTV214CZ06A | 711.2 | 1150 | 1380 | 2120 | 430 | 6" | | |
| 152GCTV144CZ08A | 116GCTV234CZ08A | 762.0 | 1190 | 1400 | 2160 | 450 | 8" | | |
| 152GCTV154CZ08A | 116GCTV264CZ08A | 812.8 | 1240 | 1400 | 2160 | 460 | 8" | | |
| 152GCTV194CZ08A | 116GCTV314CZ08A | 863.6 | 1300 | 1420 | 2160 | 460 | 8" | | |
| 152GCTV204CZ08A | 116GCTV354CZ08A | 914.4 | 1350 | 1420 | 2160 | 470 | 8" | O | ₽ |
| 152GCTV224CZ08A | 116GCTV404CZ08A | 965.2 | 1380 | 1420 | 2160 | 470 | 8" | | |
| 152GCTV254CZ10A | 116GCTV434CZ10A | 1016 | 1430 | 1630 | 2520 | 560 | 10" | | |
| 152GCTV254CZ10A | 116GCTV484CZ10A | 1066.8 | 1500 | 1650 | 2520 | 570 | 10" | | |
| 152GCTV314CZ10A | 116GCTV564CZ10A | 1168.4 | 1580 | 1650 | 2520 | 580 | 10" | | |
| 152GCTV314CZ12A | 116GCTV644CZ12A | 1219.2 | 1630 | 1700 | 2570 | 590 | 12" | | |
| 152GCTV354CZ12A | 116GCTV734CZ12A | 1270 | 1630 | 1700 | 2570 | 600 | 12" |] | |



LAYOUT

INLET:

FLOW DIVERTER

or HALF-PIPE

as option:

VANE INLET DEVICE

SEPARATION STAGE: HIGH EFFICIENCY CARTRIDGES

The allowable flow-rate depends on the installed cartridges, the inlet liquids, the gas density and its minimum pressure. The specified dimension and cartridges quantity are valid for rating up to 300#; for different rating

The specified dimension and cartridges quantity are valid for rating up to 300#; for different rating contact ASCO Filtri for dimension.

Operation:

GC series filters are high efficiency gas-liquid coalescer filters.

The gas to be treated enter in the lower chamber of the filter where the larger size liquids (> 300 μ m) are separated by gravity.

In cases of high liquid presence, it is possible to provide at filter inlet a flow diffuser of a flow diverter to increase the separation efficiency, reducing the liquids load on the coalescer cartridges or simply increasing the life of the coalescer cartridges. When a large diameter filter (> 50") is required, a flow diffuser at inlet is strongly recommended.

The gas then passes in the actual separation stage consisting of one or more pleated fiber glass, polyester or polypropylene coalescer cartridge. The gas through the risers reaches the coalescing cartridges and crosses from the outside to inside; the dragged liquids and the aerosols are intercepted by the cartridge's microfiber that capture them. The separated micro drops are agglomerated to form larger drops, that pushed by the gas, emerge from the outer surface of the cartridges. Due to the low gas annular speed the separated liquids can be collected by gravity on support plate where they are regularly downloaded.

The gas, once dehydrates, leaves the filter from the nozzle placed above the coalescing cartridges.

Coalescer cartridge filters provide different separation efficiency related to the installed cartridges:

GLP series

- Liquids: 99.98% droplets ≥ 0.3 μm, residual liquids up to 0.01 ppm - Solids: 99.97% particles ≥ 0.3 μm

RFVR series

- Liquids: 99.98% droplets \geq 0.1 µm, residual liquid up to 0.01 ppm Solid: 99.98% particles \geq 0.1 µm

- Solids: 99.98% particles \ge 0.1 μ m

The coalescing filters GC series are ideal for treating the gases with liquids content up to 1000 ppm (0.1%) with low solids content.

The coalescing filters GC series are suitable to accept high flow-rate variation without appreciable efficiency changes.



ASCO Filtri S.p.A.

SG/V Series

GAS FILTER SEPARATOR VERTICAL TAILOR MADE

LAYOUT

1st STAGE:

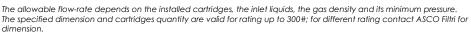
- AGGLOMERATING CARTRIDGES PFG o PBTG SERIES

2ND STAGE:

- VANE EXTRACTOR

SG/V series dimensions: 140SGV - PFG 536 cartridges 116SGV - PBTG 340 cartridges

| Gas filter sep | arator model | | | Dimens | ions (m | nm] | | | |
|--------------------|---------------------|--------|------|--------|---------|------|--------|---|---|
| PFG 536 cartridges | PBTG 340 cartridges | А | В | С | D | E | In/out | | |
| 140SGTV014CZ02A | 116SGTV014CZ02A | 219.1 | 540 | 1000 | 1000 | 1170 | 2" | | |
| 140SGTV014CZ03A | 116SGTV024CZ03A | 273.0 | 600 | 1020 | 1000 | 1170 | 3" | f | |
| 140SGTV024CZ04A | 116SGTV034CZ04A | 323.8 | 650 | 1060 | 1060 | 1200 | 4" | | |
| 140SGTV034CZ06A | 116SGTV044CZ06A | 355.6 | 770 | 1120 | 1120 | 1230 | 6" | | E |
| 140SGTV044CZ06A | 116SGTV074CZ06A | 406.4 | 820 | 1120 | 1120 | 1230 | 6" | ш | e |
| 140SGTV054CZ08A | 116SGTV074CZ08A | 457.2 | 870 | 1220 | 1220 | 1290 | 8" | | |
| 140SGTV074CZ08A | 116SGTV094CZ08A | 508.0 | 920 | 1220 | 1220 | 1290 | 8" | | <u></u> |
| 140SGTV084CZ08A | 116SGTV124CZ08A | 558.8 | 970 | 1220 | 1220 | 1290 | 8" | | |
| 140SGTV094CZ10A | 116SGTV154CZ10A | 609.6 | 1020 | 1400 | 1400 | 1320 | 10'' | | ┟┷┟╌╼╡ |
| 140SGTV094CZ10A | 116SGTV174CZ10A | 660.4 | 1080 | 1430 | 1400 | 1320 | 10" | | |
| 140SGTV144CZ10A | 116SGTV214CZ10A | 711.2 | 1120 | 1430 | 1400 | 1320 | 10" | | |
| 140SGTV164CZ12A | 116SGTV234CZ12A | 762.0 | 1180 | 1600 | 1580 | 1320 | 12" | | |
| 140SGTV194CZ12A | 116SGTV264CZ12A | 812.8 | 1220 | 1600 | 1580 | 1320 | 12" | | . // |
| 140SGTV214CZ14A | 116SGTV314CZ14A | 863.6 | 1270 | 1630 | 1600 | 1330 | 14" | | Ľ |
| 140SGTV234CZ14A | 116SGTV354CZ14A | 914.4 | 1320 | 1630 | 1600 | 1340 | 14" | | |
| 140SGTV304CZ16A | 116SGTV434CZ16A | 1016 | 1440 | 1650 | 1630 | 1380 | 16" | | -6 |
| 140SGTV324CL16A | 116SGTV484CZ16A | 1066.8 | 1520 | 1830 | 1780 | 1380 | 16" | U | , in the second s |
| 140SGTV374CL18A | 116SGTV564CZ18A | 1168.4 | 1650 | 1830 | 1800 | 1420 | 18" | | |
| 140SGTV434CL18A | 116SGTV644CZ18A | 1219.2 | 1800 | 1930 | 1910 | 1450 | 18" | | |
| 140SGTV554CL20A | 116SGTV854CZ20A | 1320.8 | 1920 | 1980 | 1910 | 1500 | 20" | | L. |
| 140SGTV554CL20A | 116SGTV854CZ20A | 1371.6 | 1970 | 1980 | 1910 | 1520 | 20" | | Prife-r- |
| 140SGTV644CL24A | 116SGTV964CZ24A | 1473.2 | 2000 | 2080 | 2030 | 1610 | 24" | | |
| 140SGTV684CL24A | 116SGTV1094CZ24A | 1524 | 2080 | 2090 | 2030 | 1620 | 24" | | |
| 140SGTV854CL26A | 116SGTV1264CZ26A | 1676.4 | 2280 | 2130 | 2030 | 1650 | 26" | | |



Operation:

The filters SG/V series are high efficiency gas-liquid filters separator.

The gas to be treated enters into the upper chamber of the filter in correspondence of the first stage cartridges riser. Here, the largest size liquids (> $300 \ \mu m$) are separated by gravity and collected on the tubesheet from which are constantly downloaded.

The gas passes through the filter cartridges from the outside to inside; the entrained solids are retained by the cartridges which being made with a depth filtering medium, provides to agglomerate the finer drops of liquid and aerosols into larger droplets.

These droplets are entrained by the gas exiting from the cartridges and crossing the second separation stage, consisting of an horizontal flow vane extractor, are separated by centrifugal effect and to inertial impact.

The liquids separated from the vane extractor, by gravity are collected on the bottom of the filter and are downloaded frequently.

The gas-liquid separators provide the following separation efficiencies:

- Liquids: 100% droplets $\geq 8 \ \mu m, \ 99.5\%$ droplets from 0.5 to 8 $\mu m,$
- Solids: 100% particles \geq 1 $\mu m,$ 99.5% particles from 0.5 to 1 $\mu m.$

The gas separator filters series SG/V are available with two different models of cartridge:

- PFG536: OD 140 mm and fiberglass filter media.
- PBTG340: OD 116 mm and polyester filter media.

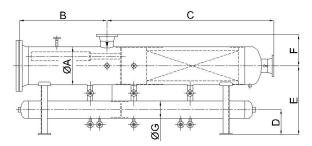
ASCO Filtri S.p.A.



Dimensioni serie 140SG: 140SGH - cartucce PFG 536 116SGH - cartucce PBTG 340

| Gas filter sep | arator model | Dimensions [mm] | | | | | | | | | |
|--------------------|---------------------------------------|-----------------|------|------|-----|------|------|-------|--------|--|--|
| PFG 536 cartridges | FG 536 cartridges PBTG 340 cartridges | | В | С | D | E | F | G | In/out | | |
| 140SGTH014CL02A | 116SGTH014CL02A | 219.1 | 1230 | 1335 | 300 | 700 | 260 | 168.3 | 2" | | |
| 140SGTH014CL03A | 116SGTH024CL03A | 273 | 1230 | 1360 | 300 | 700 | 300 | 168.3 | 3" | | |
| 140SGTH024CL04A | 116SGTH034CL04A | 323.8 | 1250 | 1430 | 300 | 800 | 315 | 168.3 | 4" | | |
| 140SGTH034CL04A | 116SGTH044CL04A | 355.6 | 1277 | 1540 | 320 | 870 | 380 | 168.3 | 4" | | |
| 140SGTH044CL04A | 116SGTH074CL04A | 406.4 | 1277 | 1600 | 320 | 920 | 410 | 168.3 | 4" | | |
| 140SGTH054CL06A | 116SGTH074CL06A | 457.2 | 1370 | 1850 | 330 | 930 | 430 | 168.3 | 6" | | |
| 140SGTH074CL06A | 116SGTH094CL06A | 508.0 | 1370 | 2100 | 320 | 970 | 460 | 168.3 | 6" | | |
| 140SGTH084CL06A | 116SGTH124CL06A | 558.8 | 1370 | 2150 | 320 | 980 | 480 | 168.3 | 6" | | |
| 140SGTH094CL08A | 116SGTH154CL08A | 609.6 | 1402 | 2667 | 400 | 1100 | 510 | 219.1 | 8" | | |
| 140SGTH094CL10A | 116SGTH174CL10A | 660.4 | 1300 | 2760 | 400 | 1125 | 540 | 273 | 10" | | |
| 140SGTH144CL10A | 116SGTH214CL10A | 711.2 | 1305 | 3110 | 400 | 1162 | 560 | 273 | 10" | | |
| 140SGTH164CL12A | 116SGTH234CL12A | 762.0 | 1310 | 3150 | 400 | 1162 | 590 | 273 | 12" | | |
| 140SGTH194CL12A | 116SGTH264CL12A | 812.8 | 1318 | 3150 | 400 | 1210 | 610 | 273 | 12" | | |
| 140SGTH214CL14A | 116SGTH314CL14A | 863.6 | 1330 | 3600 | 430 | 1330 | 640 | 323.8 | 14" | | |
| 140SGTH234CL14A | 116SGTH354CL14A | 914.4 | 1340 | 3640 | 430 | 1330 | 660 | 323.8 | 14" | | |
| 140SGTH304CL16A | 116SGTH434CL16A | 1016 | 1400 | 3990 | 450 | 1450 | 720 | 355.6 | 16" | | |
| 140SGTH324CL16A | 116SGTH484CL16A | 1066.8 | 1410 | 4100 | 450 | 1550 | 760 | 355.6 | 16" | | |
| 140SGTH374CL18A | 116SGTH564CL18A | 1168.4 | 1440 | 4160 | 450 | 1580 | 830 | 355.6 | 18" | | |
| 140SGTH434CL18A | 116SGTH644CL18A | 1219.2 | 1440 | 4170 | 450 | 1625 | 900 | 355.4 | 18" | | |
| 140SGTH554CL20A | 116SGTH854CL20A | 1320.8 | 1460 | 4500 | 480 | 1700 | 960 | 406.4 | 20" | | |
| 140SGTH554CL20A | 116SGTH854CL20A | 1371.6 | 1460 | 4500 | 480 | 1730 | 980 | 406.4 | 20" | | |
| 140SGTH644CL24A | 116SGTH964CL24A | 1473.2 | 1520 | 4850 | 500 | 1830 | 1000 | 457.2 | 24" | | |
| 140SGTH684CL24A | 116SGTH1094CL24A | 1524 | 1530 | 5000 | 500 | 1850 | 1040 | 457.2 | 24" | | |
| 140SGTH854CL24A | 116SGTH1264CL24A | 1676.4 | 1550 | 5300 | 500 | 1930 | 1140 | 457.2 | 24" | | |

The allowable flow-rate depends on the installed cartridges, the inlet liquids, the gas density and its minimum pressure. The specified dimension and cartridges quantity are valid for rating up to 300#; for different rating contact ASCO Filtri for dimension.



Operation:

The filters SG/H series are high efficiency gas-liquid filters separator.

The gas to be treated enters into the prefiltration and primary separation chamber of the filter in correspondence of the first stage cartridges riser. Here, the largest size liquids (> 300 μ m) are separated by gravity and collected on the filter lower side; through the drainage tube, liquids are discharged into the collecting barrel.

The gas passes through the filter cartridges from the outside to inside; the entrained solids are retained by the cartridges which being made with a depth filtering medium, provides to agglomerate the finer drops of liquid and aerosols into larger droplets.

These droplets are entrained by the gas exiting from the cartridges and crossing the second separation stage, consisting of an horizontal flow vane extractor, are separated by centrifugal effect and to inertial impact.

The liquids separated from the vane extractor, by gravity are collected on the bottom of the filter; through the drainage tube, liquids are discharged into the collecting barrel. The gas, now filtered and dehydrated, exit from gas-liquid filter separator from the outlet

nozzle located on the rear dished head.

The gas-liquid separators provide the following separation efficiencies:

- Liquids: 100% droplets \ge 8 μ m, 99.5% droplets from 0.5 to 8 μ m,

- Solids: 100% particles \geq 1 μ m, 99.5% particles from 0.5 to 1 μ m.



SG/H Series GAS FILTER SEPARATOR HORIZONTAL TAILOR MADE

LAYOUT

1ST STAGE: AGGLOMERATING CARTRIDGES PFG o PBTG SERIES

2ND STAGE:

VANE EXTRACTOR

ASCO Filtri S.p.A.



ABSOLUTE GAS SEPARATOR WITH VANE EXTRACTOR TAILOR MADE

LAYOUT

1st STAGE:

VANE EXTRACTOR

2ND STAGE:

- HIGH EFFICIENCY GLP COALESCER CARTRIDGES

AS series dimensions: 152ASV - GLP 640 series cartridges 116ASV - GLP 336 series cartridges

| Absolute sepa | arators model | | [| Dimens | ions [m | ım] | |] | | <u>†</u> | €® |
|--------------------|--------------------|--------|------|--------|---------|-----|--------|-----|------|-------------------|----|
| GLP 640 cartridges | GLP 336 cartridges | А | В | С | D | E | In/out | | E | | 7 |
| 152ASTV014CZ03A | 116ASTV024CZ03A | 273.0 | 560 | 1250 | 1950 | 259 | 3" | ш | r- | ļļ | Þ |
| 152ASTV014CZ04A | 116ASTV034CZ04A | 323.8 | 650 | 1390 | 2110 | 352 | 4" | | ┝╶╫╧ | 7 ! | |
| 152ASTV034CZ06A | 116ASTV074CZ06A | 406.4 | 820 | 1420 | 2200 | 361 | 6" | | Í | l cha | |
| 152ASTV044CZ06A | 116ASTV054CZ06A | 457.2 | 870 | 1640 | 2250 | 374 | 6" | | | | |
| 152ASTV054CZ06A | 116ASTV074CZ06A | 508.0 | 900 | 1700 | 2300 | 451 | 6" | | | ØA | - |
| 152ASTV064CZ08A | 116ASTV124CZ08A | 558.8 | 960 | 1750 | 2300 | 456 | 8" | D | | | |
| 152ASTV074CZ08A | 116ASTV154CZ08A | 609.6 | 1050 | 1850 | 2400 | 472 | 8" | 1 | | -\$77 | |
| 152ASTV084CZ08A | 116ASTV174CZ08A | 660.4 | 1100 | 1850 | 2400 | 475 | 8" | 1 | | | |
| 152ASTV104CZ08A | 116ASTV214CZ08A | 711.2 | 1150 | 1850 | 2400 | 482 | 8" | 1 | | | |
| 152ASTV134CZ10A | 116ASTV224CZ10A | 762.0 | 1190 | 1870 | 2400 | 502 | 10" |] . | | 577 | L |
| 152ASTV144CZ10A | 116ASTV264CZ10A | 812.8 | 1240 | 2000 | 2550 | 510 | 10" | | | - W - (| ╝ |
| 152ASTV164CZ10A | 116ASTV314CZ10A | 863.6 | 1300 | 2050 | 2550 | 512 | 10" | 1 | | | |
| 152ASTV194CZ12A | 116ASTV354CZ12A | 914.4 | 1350 | 2050 | 2580 | 520 | 12" | | | ====!'``\==== | |
| 152ASTV234CZ12A | 116ASTV434CZ12A | 1016 | 1430 | 2230 | 2625 | 531 | 12" | с | -‡= | | |
| 152ASTV254CZ12A | 116ASTV484CZ12A | 1066.8 | 1500 | 2300 | 2680 | 540 | 12" | 1 | -}= | | |
| 152ASTV294CZ12A | 116ASTV564CZ12A | 1168.4 | 1580 | 2350 | 2680 | 541 | 12" |] | | | 1 |
| 152ASTV314CZ14A | 116ASTV644CZ14A | 1219.2 | 1630 | 2390 | 2860 | 580 | 14" |], | | E ==== | ≡ŀ |

The allowable flow-rate depends on the installed cartridges, the inlet liquids, the gas density and its minimum pressure.

The specified dimension and cartridges quantity are valid for rating up to 300#; for different rating contact ASCO Filtri for dimension.

Operation:

The filters AS series are multiple stage high efficiency gas-liquid filters separators; their operation is mainly based on simple physical principles like the gravity, the inertial impact, the direct interception and Brownian movements.

The gas to be treated enters into the primary separation chamber of the filter where a vane extractor provides to separate the largest size liquids; the first stage is suitable to provide high separation efficiency: 100% liquids $\geq 8 - 10 \,\mu m$.

The gas, thus purified, rises to the top and crossing the high efficiency coalescer cartridges from inside to outside that provide at the final separation of aerosols and fogs, exactly as for the GC series coalescing filters, ensuring high separation performance:

- Liquids: 99.9% droplets \geq 0.3 $\mu m,$ residual liquids up to 0.01 ppm
- Solids: 99.9% particles \geq 0.3 µm



The absolute separation filters are the ideal solution in applications that demand high-performance for gas highly contaminated by liquids.

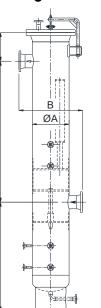
Due to their configuration, the absolute separators, are very sensitive to the presence of solids which must be limited to prevent fouling of the vane extractor with consequent loss of separation capacity.





152CY series dimensions - 2" mini cyclones + GLP series cartridges:

| Filter model | | Dimensions [mm] | | | | | | | | | | |
|-----------------|--------|-----------------|------|------|------|-----|--------|--|--|--|--|--|
| Filler Model | Α | A OD/ID | | С | D | E | In/out | | | | | |
| 152CYTV014CZ03A | 219.1 | | 520 | 1270 | 1840 | 246 | 3" | | | | | |
| 152CYTV014CZ04A | 273 | | 600 | 1550 | 1970 | 259 | 4" | | | | | |
| 152CYTV014CZ06A | 323.8 | | 650 | 1600 | 2130 | 352 | 6" | | | | | |
| 152CYTV034CZ06A | 406.4 | OD | 720 | 1680 | 2200 | 361 | 6" | | | | | |
| 152CYTV044CZ06A | 457.2 | OD | 770 | 1680 | 2210 | 374 | 6" | | | | | |
| 152CYTV054CZ08A | 508.0 | | 900 | 1750 | 2300 | 451 | 8" | | | | | |
| 152CYTV074CZ08A | 558.8 | | 950 | 1750 | 2300 | 456 | 8" | | | | | |
| 152CYTV084CZ08A | 609.6 | | 1050 | 1800 | 2330 | 472 | 8" | | | | | |
| 152CYTV094CZ10A | 660.4 | | 1100 | 1850 | 2330 | 475 | 10" | | | | | |
| 152CYTV124CZ10A | 711.2 | | 1150 | 1850 | 2330 | 482 | 10" | | | | | |
| 152CYTV144CZ10A | 762.0 | | 1200 | 1870 | 2330 | 502 | 10" | | | | | |
| 152CYTV154CZ12A | 812.8 | | 1300 | 1920 | 2510 | 510 | 12" | | | | | |
| 152CYTV194CZ12A | 863.6 | | 1440 | 1940 | 2510 | 512 | 12" | | | | | |
| 152CYTV204CZ12A | 914.4 | ID | 1500 | 1952 | 2510 | 520 | 12" | | | | | |
| 152CYTV254CZ12A | 1016 | 1 | 1600 | 2110 | 2600 | 530 | 12" | | | | | |
| 152CYTV254CZ14A | 1066.8 | 1 | 1600 | 2110 | 2620 | 530 | 14" | | | | | |
| 152CYTV314CZ14A | 1168.4 | | 1700 | 2145 | 2620 | 541 | 14" | | | | | |
| 152CYTV314CZ16A | 1219.2 | | 1780 | 2200 | 2830 | 580 | 16" | | | | | |



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Operation:

The filters CY series are multiple stage high efficiency gas-liquid filters separators; their operation is mainly based on simple physical principles like the gravity and the centrifugal force.

The gas to be treated enters into the prefiltration and separation chamber of the filter in the correspondence of the first stage cyclones risers. Here the gas velocity is significantly reduced and the bulk liquids and solids (> 300 μ m) fall down to the cyclones tubesheet; other liquids are additionally separated due to the direct impact on the cyclones risers. The separated liquids are constantly drained through a specific drain nozzle.

The gas then enters in the cyclones; each cyclone has two tangential entrance points that force the gas in a counter-clockwise downwards direction, increasing the flow velocity and imposing a centrifugal force upon the solids and liquids contained.

Both solids and liquids separated are pushed down, over the vortex generated by the cyclone and then collected by gravity into the collection chamber below the filter to be subsequently drained.

The cyclones first separation is suitable itself to ensure high separation efficiency: liquids/ solids 100% \ge 8 µm, 99% from 5 to 8 µm.

Generally, not more than 1.5 litres of liquids per 100.000 Nm³ of gas are dragged downstream cyclones if operated at the provided design flow-rate.

The gas, thus purified, rises to the top and crossing the high efficiency coalescer cartridges from inside to outside that provide at the final separation of aerosols and fogs, exactly as for the GC series coalescing filters, ensuring high separation performance:

- Liquids: 99.9% droplets \geq 0.3 μm , residual liquids up to 0.01 ppm
- Solids: 99.9% particles $\geq 0.3 \ \mu m$





CY Series

ABSOLUTE GAS SEPARATOR WITH MULTIPLE CYCLONES TAILOR MADE

LAYOUT

1ST STAGE

2" MINI CYCLONE

2ND STAGE: HIGH EFFICIENCY GLP COALESCER CARTRIDGES

ASCO Filtri S.p.A.

LG Series COALESCER FILTERS

GAS-LIQUID TAILOR MADE

MAIN APPLICATIONS:

- PROTECTION OF:
 - AMINE UNIT
 - GLYCOL DEHYDRATION
 - FLOW METERS
 - VALVES
 - PRESSURE REGULATOR
 - COMPRESSORS
 - TURBINES
 - BURNERS
 - HEAT EXCHANGERS
 - CATALYSTS
 - DISSECCANTS
- **REFINERIES**
- GAS TREATMENT PLANTS
- CHEMICAL PLANTS
- GAS PIPELINE
- COMPRESSION STATIONS
- TECHNICAL GAS PRODUCTION
- REMOVAL OF:
 - WATER
 - LIQUID HYDROCARBONS
 - LUBRICANTS
 - AMINES and GLYCOL

FLUIDS:

- NATURAL GAS
- PROCESS GAS
- SYNGAS
- BIOGAS
- NITROGEN
- HYDROGEN

Ordering information:

| 152GC | Y | V | 23 | 4 | С | Z | 120 | Α | - | XXXX |
|---------|-------------------|---|----|-----------------|---|------------------|---------|-----------------|---|------|
| Series: | Closure: | | | | | In/out position: | | Nozzles type: | | |
| 152GC | T: bolts and nuts | | | | | L: side/bottom | | F: EN flanges | | |
| 1116GC | G: swing bolts | | | | | Z: side/side | | A: ANSI flanges | | |
| 140SG | Y: quick opening | | | | | C: parallel | In/out: | | | |
| 116SG | Arrangement: | - | | | | Material: | 1 | 02: 2" | | |
| 152AS | V: vertical | | | C: carbon steel | | | 03: 3" | | | |
| 116AS | H: horizontal | | | | | W: 304/L-SS | | 04: 4" | | |
| 152CY | Cartridges qty: | | | | | S: 316/L-SS | | 06: 6" | | |
| | 01: 1 02: 2 | | | | | D: Duplex SS | | 08: 8" | | |
| | 03: 3 04: 4 | | | | | | | 10: 10" | | |
| | 05: 5 07: 7 | | | | | Length: | 1 | 12: 12" | | |
| | 08: 8 09: 9 | | | | | 4: 36" or 40" | | 14:14" | | |
| | 12:12 14:14 | | | | | | 1 | 16:16" | | |
| | 15: 15 19: 19 | | | | | | | 18: 18" | | |
| | 20: 20 | | | | | | | | | |



We reserve the right to change the data of this specification without notice.



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