

# TAC series

## Activated carbon towers



# TAC SERIES

## ACTIVATED CARBON TOWER

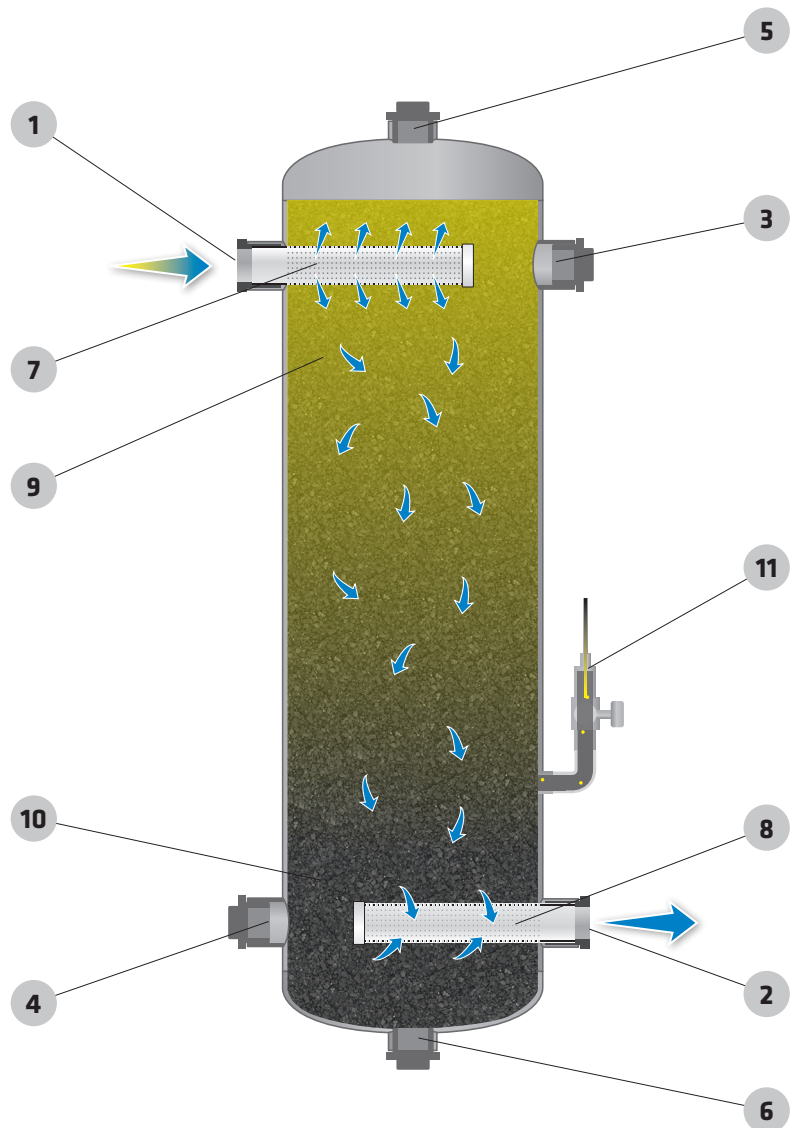
operating pressure range **0-16 bar**

temperature oper. range **1,5 to 45 °C**

### APPLICATIONS

- automotive
- electronics
- food & beverage
- chemical
- petrochemical
- plastics
- paint
- general industrial application

HIGH PRESSURE VERSIONS ARE AVAILABLE ON REQUEST.



- 1 Compressed air inlet (oily air)
- 2 Compressed air outlet (clean air)
- 3 Alternative compressed air inlet (oily air)
- 4 Alternative compressed air outlet (clean air)
- 5 Activated carbon filling aperture
- 6 Activated carbon discharging aperture
- 7 Inlet flow distributor
- 8 Outlet flow distributor
- 9 Saturated activated carbon granulate
- 10 Non-saturated activated carbon granulate
- 11 OCI - oil content indicator





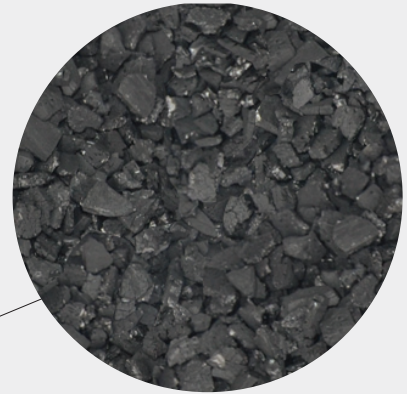
## Functionality

TAC - activated carbon towers are intended for separating oil vapours from compressed air (dry type separation).

TAC is made of high quality carbon steel pressure vessel, filled with activated carbon granulate. Flow distributors are inserted into granulate. Their purpose is to ensure uniform distribution of air flow through activated carbon bed. During air flow oil vapours as well as some other hydrocarbons are separated due to adsorption process.

Super fine coalescing filter is required upstream TAC and 1 µm dust filter is recommended downstream to intercept activated carbon dust.

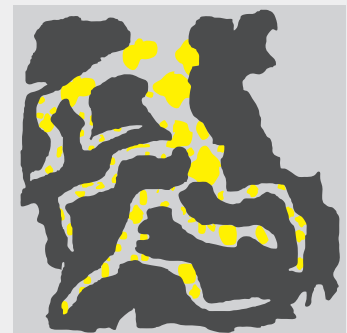
High pressure version is available on request.



## Activated carbon

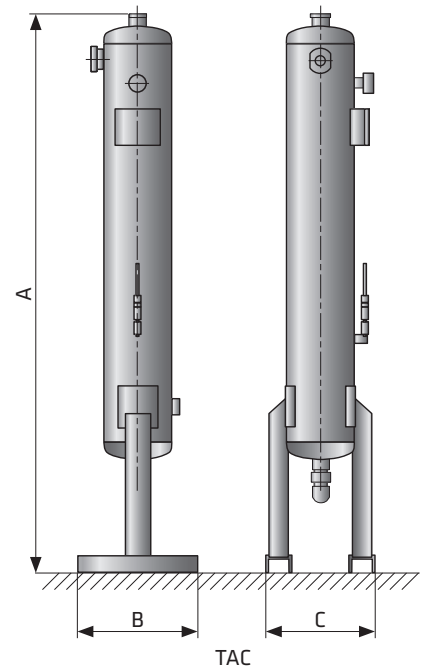
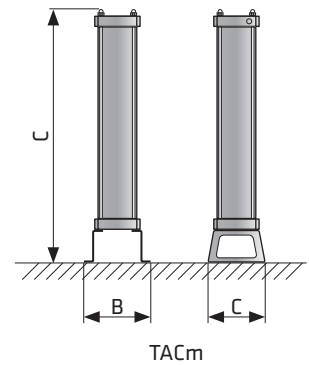
Activated carbon is adsorption medium with low-volume pores that increase the surface area available for adsorption or chemical reactions.

Due to its high degree of microporosity, just one gram of activated carbon has a surface area in excess of 500 m<sup>2</sup>, as determined by gas adsorption. An activation level sufficient for useful application may be attained solely from high surface area.



## TECHNICAL DATA - TACm, TAC

| Filter housing size                              | Pipe size                                                  | Operating pressure | Flow rate at 7 bar(g), 20 °C |                    | Dimensions [mm] |      |     | Mass        |
|--------------------------------------------------|------------------------------------------------------------|--------------------|------------------------------|--------------------|-----------------|------|-----|-------------|
|                                                  | inch                                                       |                    | bar                          | Nm <sup>3</sup> /h | scfm            | A    | B   |             |
| TACm 6                                           | 3/8                                                        | 16                 | 6                            | 3,5                | 404             | 188  | 100 | 3,5         |
| TACm 12                                          | 3/8                                                        | 16                 | 12                           | 7                  | 638             | 188  | 100 | 5,3         |
| TACm 23                                          | 3/8                                                        | 16                 | 24                           | 14,1               | 1106            | 188  | 100 | 6,5         |
| TACm 35                                          | 3/8                                                        | 16                 | 36                           | 21,1               | 1574            | 188  | 100 | 12          |
| TACm 56                                          | 1/2                                                        | 16                 | 60                           | 35,3               | 1106            | 270  | 148 | 15          |
| TACm 70                                          | 1/2                                                        | 16                 | 75                           | 44,1               | 1340            | 270  | 148 | 18          |
| TACm 105                                         | 1/2                                                        | 16                 | 105                          | 61,8               | 1808            | 270  | 148 | 22          |
| TAC 10                                           | 3/4                                                        | 16                 | 100                          | 59                 | 1369            | 300  | 261 | 44          |
| TAC 18                                           | 1                                                          | 16                 | 175                          | 103                | 1380            | 300  | 315 | 51          |
| TAC 30                                           | 1                                                          | 16                 | 275                          | 162                | 1391            | 338  | 370 | 69          |
| TAC 47                                           | 1 1/2                                                      | 16                 | 475                          | 280                | 1466            | 432  | 449 | 110         |
| TAC 94                                           | 2                                                          | 16                 | 900                          | 530                | 1485            | 574  | 580 | 186,5       |
| TAC 150                                          | 2                                                          | 16                 | 1500                         | 882                | 1586            | 712  | 724 | 310         |
| TAC 200                                          | 3                                                          | 16                 | 2200                         | 1294               | 1631            | 910  | 852 | 440         |
| TAC 240                                          | 3                                                          | 16                 | 2800                         | 1646               | 1656            | 1010 | 952 | 586         |
| High pressure versions are available on request! | quality class - solids (ISO 8573-1)                        |                    |                              |                    |                 |      |     | -           |
|                                                  | quality class - water (ISO 8573-1)                         |                    |                              |                    |                 |      |     | -           |
|                                                  | quality class - oils (ISO 8573-1)                          |                    |                              |                    |                 |      |     | 0/1         |
|                                                  | pressure drop - new element-dry [mbar / psi]               |                    |                              |                    |                 |      |     | 20 / 0,29   |
|                                                  | filter media                                               |                    |                              |                    |                 |      |     | act. carbon |
|                                                  | residual oil vapour content (nominal) [mg/m <sup>3</sup> ] |                    |                              |                    |                 |      |     | <0,003      |



### CORRECTION FACTORS

| Operating pressure [bar] | 2    | 3   | 4    | 5    | 6    | 7   | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15  | 16   |
|--------------------------|------|-----|------|------|------|-----|------|------|------|------|------|------|------|-----|------|
| Operating pressure [psi] | 29   | 44  | 58   | 72   | 87   | 100 | 115  | 130  | 145  | 160  | 174  | 189  | 203  | 218 | 232  |
| Correction factor        | 0,38 | 0,5 | 0,63 | 0,75 | 0,88 | 1   | 1,13 | 1,25 | 1,38 | 1,50 | 1,63 | 1,75 | 1,88 | 2,0 | 2,13 |

### CORRECTION FACTORS

| Operating temperature [°C] | 20 | 25   | 30   | 35   | 40   | 45   | 50   | 55 | 60 |
|----------------------------|----|------|------|------|------|------|------|----|----|
| Correction factor          | 1  | 0,98 | 0,97 | 0,92 | 0,86 | 0,75 | 0,60 | -  | -  |

Replace activated carbon every 12 months or sooner if required. Check residual oil content with oil indicator monthly.



OMEGA AIR d.o.o. Ljubljana

T +386 (0)1 200 68 00  
F +386 (0)1 200 68 50

info@omega-air.si

Cesta Dolomitskega odreda 10  
SI-1000 Ljubljana, Slovenia  
www.omega-air.si

OMEGA AIR GmbH

T +49 (0) 2841 / 39399-57  
F +49 (0) 284 / 39399-66

uwe.ohletz@omega-air.de

Eurotec Ring 15  
D-47445 Moers, Deutschland  
www.omega-air.de

OMEGA AIR Zagreb d.o.o.

T +385 (0)1 2371 / 872  
F +385 (0)1 2371 / 870

info@omega-air.hr

CMP Savica Šanci 113  
HR-10000 Zagreb, Croatia  
www.omega-air.hr

