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**EXPANSION TANK FOR WATER AND DIATHERMIC OIL SYSTEM**



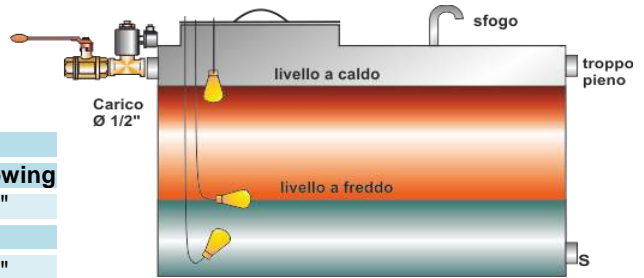
VALVOIND Via Pascoli, 5 - 24060 Bagnatica (Bergamo) Tel. 035.681919 Fax. 035.680954

**SC110**

**OPENED EXPANSION TANK FOR WATER-SYSTEM**

Frost-protected galvanized steel tank suitable to contain the volume increase of the water-system with the temperature raising, equipped with a tap floating for automatic water level restore.

| Capacity (L) |      | DIMENSIONI (mm) |     |      | CONNECTIONS |       |              |
|--------------|------|-----------------|-----|------|-------------|-------|--------------|
| total        | real | A               | B   | C    | supply      | sfogo | over flowing |
| 110          | 70   | 500             | 500 | 500  | 1½"         | 1½"   | 1½"          |
| 260          | 190  | 750             | 500 | 750  | 2"          | 2½"   | 2"           |
| 530          | 370  | 1000            | 750 | 750  | 2½"         | 2½"   | 2½"          |
| 900          | 650  | 1250            | 750 | 1000 | 3"          | 3"    | 3"           |



$$V = Q \cdot K$$

|   |                          |
|---|--------------------------|
| V | Expansion volume         |
| Q | System volme             |
| K | Coefficient of expansion |

|               |       |       |       |        |       |       |       |
|---------------|-------|-------|-------|--------|-------|-------|-------|
| Max Temp.°C   | 40    | 60    | 78    | 80     | 85    | 90    | 95    |
| K Coefficient | 0,008 | 0,017 | 0,027 | 0,0287 | 0,032 | 0,036 | 0,039 |

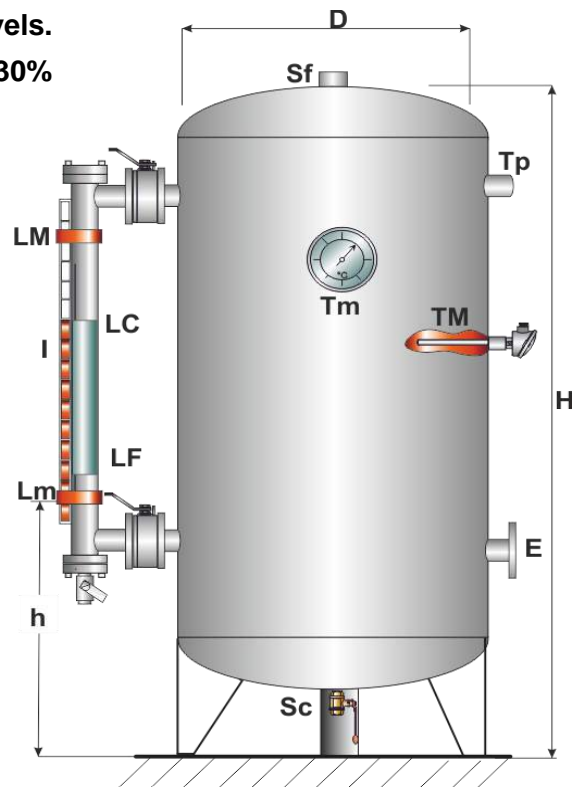
**SC115**

**OPENED EXPANSION TANK FOR OIL DIATHERMIC SYSTEM**

Cylindrical and vertical Steel tank painted, suitable to contain the volume increase of the oil system (hydraulic-test approved to 6 bar).

Its real capacity is the difference between hot and cold oil levels. The total capacity of the tank must be capable of containing 30% of the total capacity of the oil system

| CODES   | Tank Capacity (L) |      | Dimensions (mm) |      |     | Connections |    |     |
|---------|-------------------|------|-----------------|------|-----|-------------|----|-----|
|         | Total             | Real | Ø D             | H    | h   | E           | S  | TP  |
| SC11501 | 250               | 120  | 500             | 1380 | 435 | 40          | 25 | 40  |
| SC11502 | 500               | 310  | 600             | 1900 | 455 | 50          | 25 | 50  |
| SC11503 | 750               | 530  | 700             | 2290 | 540 | 65          | 25 | 65  |
| SC11504 | 1000              | 690  | 800             | 2320 | 550 | 65          | 25 | 65  |
| SC11505 | 1250              | 760  | 950             | 2070 | 570 | 65          | 25 | 65  |
| SC11506 | 1500              | 980  | 950             | 2370 | 580 | 80          | 25 | 80  |
| SC11507 | 2000              | 1310 | 1100            | 2480 | 650 | 80          | 32 | 80  |
| SC11508 | 2500              | 1560 | 1200            | 2530 | 670 | 80          | 32 | 80  |
| SC11509 | 3000              | 1880 | 1250            | 2730 | 695 | 100         | 40 | 100 |
| SC11510 | 4000              | 2350 | 1400            | 2880 | 795 | 100         | 50 | 100 |
| SC11511 | 5000              | 3080 | 1600            | 2920 | 810 | 100         | 50 | 100 |



|    |                   |
|----|-------------------|
| LF | cold oil level    |
| LC | hot oil level     |
| E  | system connection |
| Tp | overflow          |
| Sf | breather          |
| Sc | discharged        |

|    |                   |
|----|-------------------|
| LM | top level device  |
| Lm | low level device  |
| I  | level indicator   |
| Tm | thermometer       |
| TM | termostato di max |

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## EXPANSION TANK FOR SUPERHEATED WATER SYSTEM

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**Valvoind**

valvole industriali

**SC120**

**CLOSED EXPANSION TANK WITHOUT DIAPHRAGM**

**For overheated water plants with gas pressurisation**

It's suitable to contain water expansion and to keep system pressurization within the established limits with temperature rising.

With slight pressure lowering, to avoid steam generating on top of the system or inside suction pipes, the pressurization to perform at operating temperature, with air or azote, must keep a higher pressure than superheated water saturation one.

The cylindrical vertical tank is made up of a good quality steel plate and feet, for floor installation, approved by I.S.P.E.S.L. Standards.

Level switches and manostats, are equipped with an automatic lock to interrupt heat increase to the generator.

Plan a control panel with manual unlocking device.

Azote is suggested for pressurization. Air is used in low temperature and medium pressure system

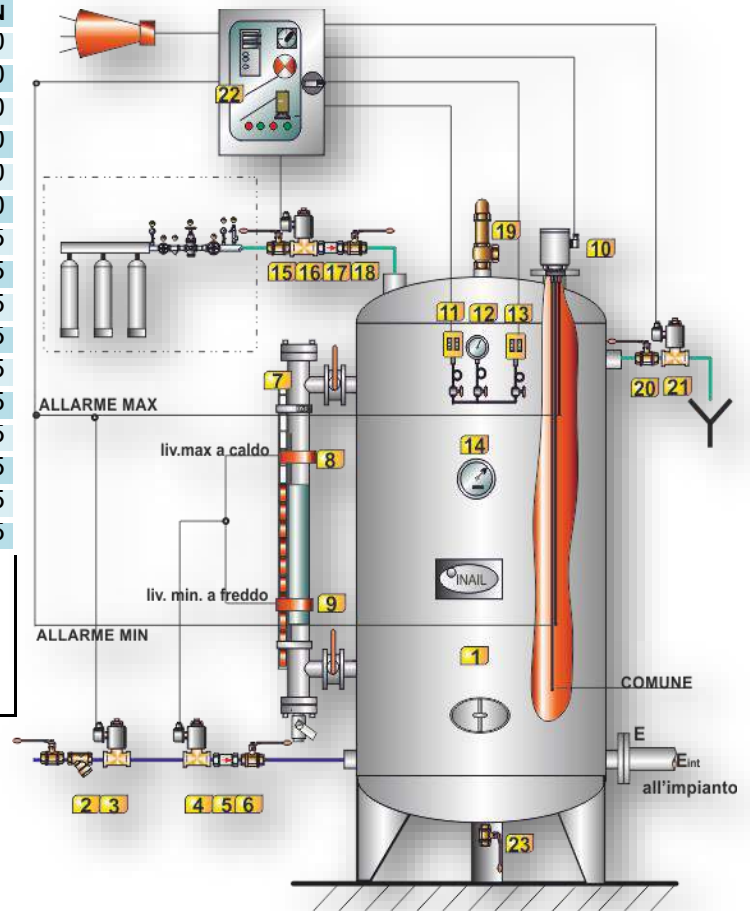
| I.S.P.E.S.L. Press.(comparative)   | bar | 5     | 6   | 8     | 12    | 15    | 18    |
|------------------------------------|-----|-------|-----|-------|-------|-------|-------|
| Hydraulic test press (comparative) | bar | 7,5   | 9   | 12    | 17    | 20    | 23    |
| design temperature                 | °C  | 158,9 | 165 | 175,4 | 191,7 | 201,4 | 209,9 |
| UNI flanges                        | PN  | 16    | 16  | 16    | 16    | 25    | 25    |

| CODES   | Volume |       | Dimensions (mm) |      |     | Connections |       |    |
|---------|--------|-------|-----------------|------|-----|-------------|-------|----|
|         | Total  | Real  | Ø D             | H    | h   | E           | Øint. | S  |
|         | Liter  | Liter |                 |      |     | DN          | mm    | DN |
| SC12001 | 100    | 70    | 406             | 1030 | 430 | 40          | 38    | 20 |
| SC12002 | 140    | 110   | 406             | 1340 | 430 | 40          | 38    | 20 |
| SC12003 | 200    | 160   | 480             | 1410 | 455 | 40          | 38    | 20 |
| SC12004 | 300    | 250   | 480             | 1910 | 455 | 40          | 38    | 20 |
| SC12005 | 400    | 325   | 550             | 1930 | 475 | 50          | 49    | 20 |
| SC12006 | 500    | 405   | 610             | 1970 | 490 | 50          | 49    | 20 |
| SC12007 | 600    | 485   | 700             | 1910 | 560 | 50          | 49    | 25 |
| SC12008 | 750    | 630   | 700             | 2310 | 575 | 65          | 58    | 25 |
| SC12009 | 1000   | 835   | 800             | 2360 | 595 | 65          | 58    | 25 |
| SC12010 | 1200   | 955   | 920             | 2160 | 610 | 65          | 58    | 25 |
| SC12011 | 1500   | 1270  | 920             | 2660 | 630 | 80          | 73    | 25 |
| SC12012 | 2000   | 1610  | 1030            | 2760 | 700 | 80          | 73    | 25 |
| SC12013 | 2500   | 2035  | 1150            | 2820 | 725 | 80          | 73    | 25 |
| SC12014 | 3000   | 2400  | 1250            | 2860 | 760 | 100         | 97    | 25 |
| SC12015 | 4000   | 3240  | 1440            | 3020 | 860 | 100         | 97    | 25 |
| SC12016 | 5000   | 4040  | 1440            | 3520 | 860 | 100         | 97    | 25 |

Vu = Real tank volume, is the volume occupied by gas, with water at minimum level, in cold working conditions (Liter)

E = Internal Diameter of expansion pipe > than  $\sqrt{P/1978}$  mm

P = generators capacity (Kcal/h)



12 Manometer

11 Pressure switch 1

10 Level control

9 Bist. Switch min

8 Bist. Switch max

7 magnetic level indicator

6 Ball valve

5 Check valve

4 Working solenoid valve

3 Safety solenoid valve

2 Ball valve

1 Crawl tank

23 Relief valve

22 Electrical panel

21 Solenoid valve

20 Ball valve

19 Safety valve

18 Ball valve

17 Check valve

16 Solenoid valve

15 Ball valve

14 Thermometer

13 Pressure switch 2

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# STEAM ACCUMULATOR

certified according to 97/23/CE directive

**Valvoid**

valvole industriali

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**SC125**

## HORIZONTAL STEAM ACCUMULATOR

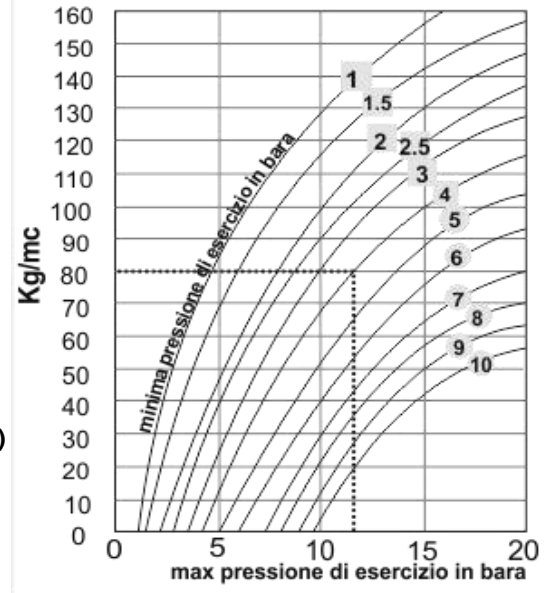
It is a storage tank that allows the boiler to work effortlessly when it needs to supply the excessive and sudden steam demand to the user.

The most important advantages are the following: Energy saving to make the burner work evenly and the pressure and the steadiness of the steam always constant to use.

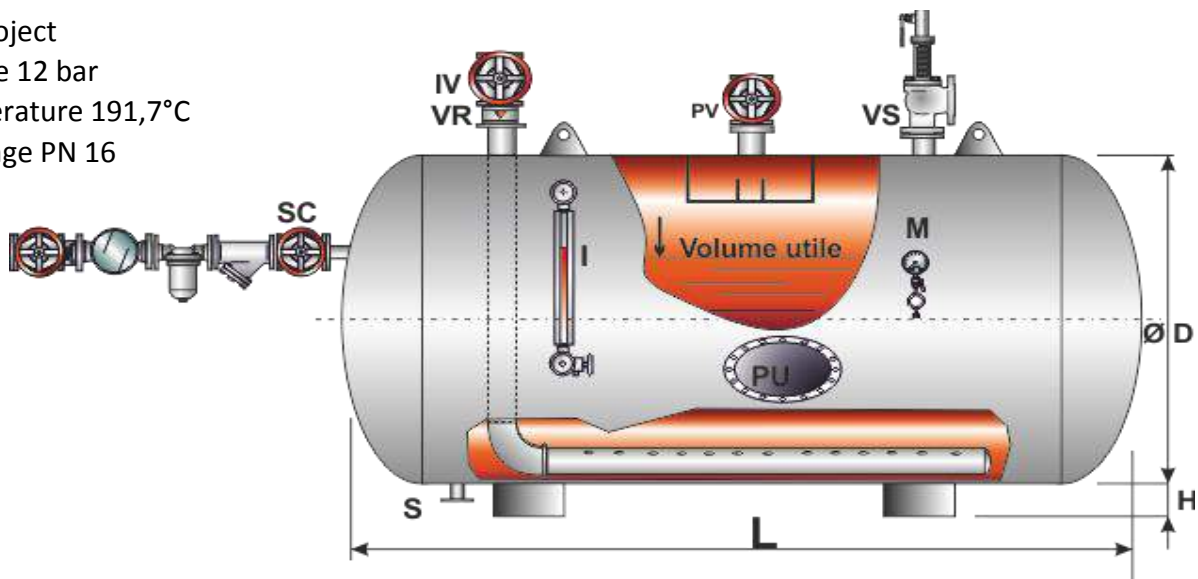
We recommend placing the steam accumulators outdoor

Considering the steam requirement under the toughest operating conditions, calculate the useful volume of the accumulator with the diagram on the right. If it is difficult to determine the real vapor requirements, calculate the capacity of the accumulator considering the useful volume of the tank 1 ÷ 1.5 times the potentials of the boiler.

(e.g.: potential boiler= 3000Kg/h => volume of tank= from 3000 up to 4500 liters)



Data project  
 Pressure 12 bar  
 Temperature 191,7°C  
 UNI flange PN 16



| codes   | Total volume liter | Real Volume liter | Dimension |      |            | Connection |       |       |      |
|---------|--------------------|-------------------|-----------|------|------------|------------|-------|-------|------|
|         |                    |                   | ØD mm     | L mm | H selle mm | IV DN      | PV DN | SC DN | S DN |
| SC12501 | 500                | 350               | 600       | 1900 | 400        | 40         | 40    | 25    | 25   |
| SC12502 | 1000               | 800               | 800       | 2300 | 450        | 50         | 50    | 25    | 25   |
| SC12503 | 1500               | 1100              | 950       | 2400 | 450        | 65         | 65    | 25    | 25   |
| SC12504 | 2000               | 1500              | 950       | 3100 | 450        | 80         | 80    | 25    | 25   |
| SC12505 | 3000               | 2250              | 1150      | 3200 | 500        | 100        | 100   | 25    | 25   |
| SC12506 | 5000               | 3650              | 1450      | 3350 | 500        | 125        | 125   | 25    | 25   |
| SC12507 | 7000               | 5250              | 1600      | 3950 |            |            |       |       |      |
| SC12508 | 10000              | 7400              | 1600      | 5450 |            |            |       |       |      |
| SC12509 | 15000              | 11050             | 1850      | 6050 |            |            |       |       |      |
| SC12510 | 20000              | 14500             | 2100      | 6200 |            |            |       |       |      |

To be defined relating to the plant

- IV = HEAT ENTRANCE
- VS = SAFETY VALVE (ON REQUEST)
- I = LEVEL INDICATOR
- S = RELEASE
- PV = CONDENSING STEAM
- SC = STEAM TRAP GROUP
- M = MANOMETER
- PU = MANHOLE ACCORDING TO THE RULES
- VR = CHECK VALVE