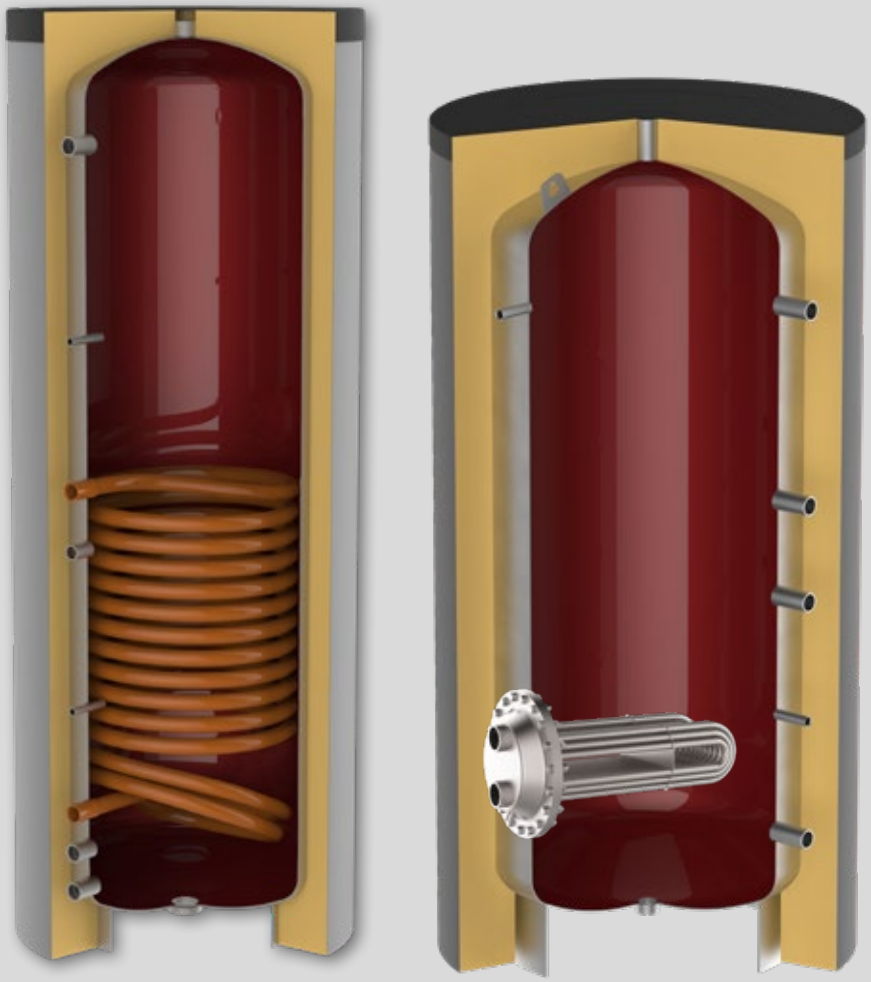
# Indirect Water Heater



# Glass lined water heater with fixed internal heat exchanger – SMART 1

The Smart 1 range consists of water heaters for the production of domestic hot water with a single fixed heat exchanger, available in several capacities, from 200 to 3000 litres. They are equipped with different type of insulation (see chart below), external PVC coating, a magnesium anode for protection against galvanic currents and an inspection flange to make access in the control and maintenance phase easier.



TESTED

**Material:** S 235 JR carbon steel

**Treatment for internal protection:** The boilers up to 1000l are treated with food grade inorganic glass lining in accordance with DIN 4753.3. The tanks with a capacity between 1500 and 3000 litres are varnished with Bluetech.

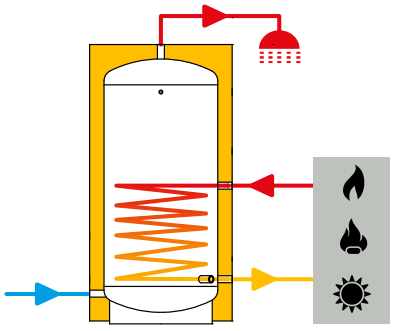
WRAS APPROVED MATERIAL

## Insulation

| Capacity (l) | Type |
|---|---|
| from 200 to 1000 | Highly rigid polyurethane foam |
| from 1500 | Polyester Fiber |

## Operational limits

| | Storage | | Primary circuit | |
|---|---|---|---|---|
| Capacity (l) | temp. max. | pressure max. | temp. max. | pressure max. |
| from 200 to 1000 | 95°C | 10 bar | 110°C | 12 bar |
| from 1500 to 3000 | 80°C | 6 bar | 110°C | 12 bar |



**Supplied accessories:** Safety valve and thermometer for sizes up to 1000 l, magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296

| Capacity l | | | | Vertical Packaging | |
|---|---|---|---|---|---|
| | Code | Price | Energy label | Dimensions cm | Weight kg |
| 200 | 819060318X | | B | 60X60X150 | 74 |
| 300 | 819060319X | | B | 70X70X150 | 103 |
| 500 | 819060320X | | C | 80X80X180 | 143 |
| 750 | 819060321X | | C | 95X95X185 | 213 |
| 1000 | 819060322X | | C | 110X110X210 | 251 |
| 1500 | 819080001X | | C | 130X130X240 | 295 |
| 2000 | 819080002X | | C | 140X140X275 | 380 |
| 3000 | 819080005X | | | 150X150X300 | 469 |

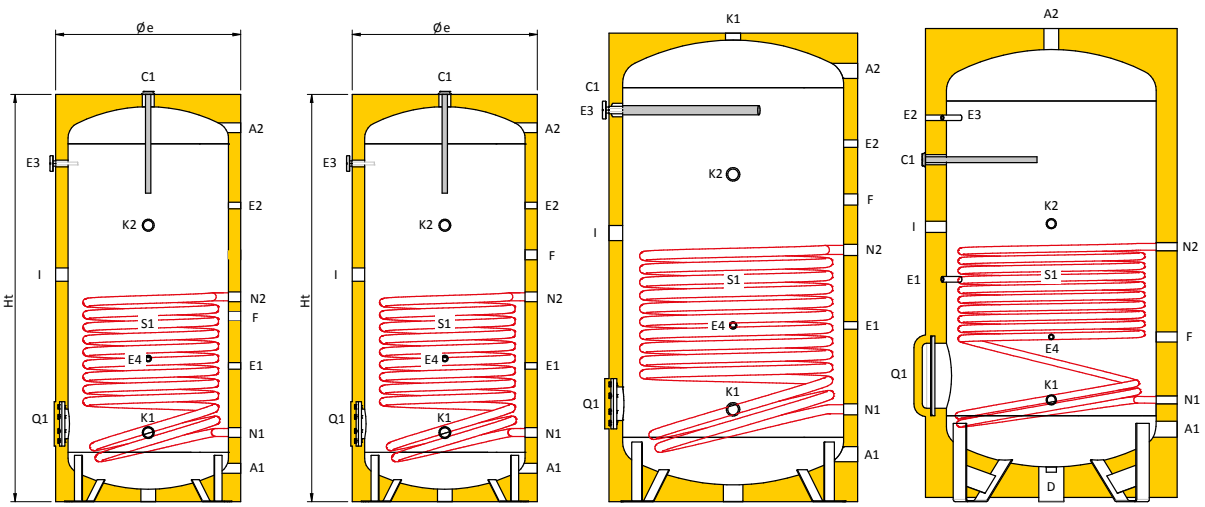


**Integration with AQUAFAST**

See page 212

# Glass lined water heater with fixed internal heat exchanger – SMART 1

cap. = 200 | 200 ≤ cap. ≤ 500 | 750 ≤ cap. ≤ 1.000 | 1.500 ≤ cap. ≤ 3.000




## Couplings legend

| | | | |
|---|---|---|---|
| **A1** | DHW inlet | **F** | Recirculation |
| **A2** | DHW outlet | **I** | Electrical resistor |
| **C1** | Anode | **K1** | Auxiliary |
| **D** | Drain | **K2** | Auxiliary |
| **E1** | Probe / Thermometer | **N1** | Exchanger outlet |
| **E2** | Probe / Thermometer | **N2** | Exchanger inlet |
| **E3** | Probe / Thermometer | **Q1** | Inspection hole |
| **E4** | Probe / Thermometer | **S1** | Lower exchanger |

## Couplings chart

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | E3 inch | E4 inch | F inch | I inch | K1 inch | K2 inch | N1 inch | N2 inch | Q (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 300 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 500 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | - | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | - | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 1500 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø380/Ø300 |
| 2000 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø380/Ø300 |
| 3000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø380/Ø300 |

## Size chart

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | A2 mm | C1 mm | D mm | E1 mm | E2 mm | E3 mm | E4 mm | F mm | I mm | K1 mm | K2 mm | N1 mm | N2 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 560 | 1325 | 1440 | 120 | 1220 | 1325 | - | 385 | 970 | 1115 | 525 | 555 | 840 | 225 | 1065 | 225 | 705 | 270 |
| 300 | 660 | 1380 | 1530 | 130 | 1260 | 1380 | - | 500 | 1095 | 1145 | 555 | 925 | 855 | 255 | 1095 | 255 | 800 | 305 |
| 500 | 760 | 1650 | 1820 | 135 | 1515 | 1650 | - | 550 | 1200 | 1370 | 580 | 1000 | 920 | 280 | 1120 | 280 | 830 | 315 |
| 750 | 910 | 1675 | 1910 | 170 | 1540 | 1400 | - | 630 | 1280 | 1400 | 630 | 1080 | 960 | 330 | 1170 | 330 | 900 | 350 |
| 1000 | 1010 | 1965 | 2210 | 190 | 1810 | 1670 | - | 660 | 1300 | 1670 | 650 | 1100 | 980 | 350 | 1190 | 350 | 920 | 370 |
| 1500 | 1250 | 2280 | 2605 | 345 | - | 1630 | 165 | 1060 | 1830 | 1830 | 785 | 785 | 1310 | 485 | 1325 | 485 | 1215 | 600 |
| 2000 | 1350 | 2600 | 2930 | 345 | - | 1965 | 155 | 1165 | 2150 | 2150 | 780 | 815 | 1495 | 480 | 1320 | 490 | 1325 | 605 |
| 3000 | 1450 | 2870 | 3220 | 400 | - | 2120 | 180 | 1375 | 2410 | 2410 | 850 | 875 | 1625 | 550 | 1390 | 550 | 1540 | 665 |

R*: reversal quote

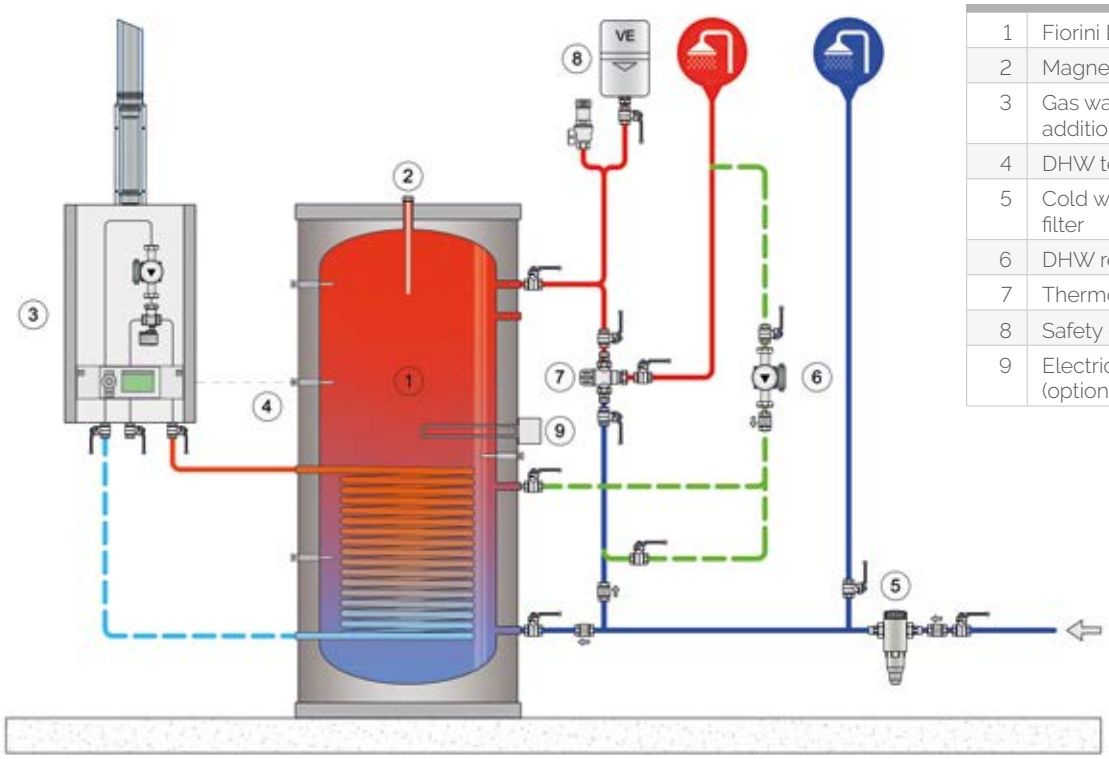
Q1**: Height from inspection hole center to the ground

# Technical information for SMART 1 series

| | | DHW production TiACS = 10°C | | | | | | Exchanger | |
|---|---|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuACS= 45°C | | TuACS = 60°C | | Ta = 50°C TuACS = 45°C | Ta = 60°C TuACS = 45°C | Surface area | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/h (c) | kW (d) | l/10 min. (e) | l/10 min. (f) | m² | mc/h |
| 200 | 70 | 810 | 33 | 395 | 23 | 347 | 390 | 1 | 3 |
| | 80 | 1081 | 44 | 602 | 35 | 392 | 435 | | |
| | 90 | 1253 | 51 | 739 | 43 | 421 | 464 | | |
| 300 | 70 | 810 | 33 | 395 | 23 | 454 | 517 | 1,3 | 3 |
| | 80 | 1081 | 44 | 602 | 35 | 499 | 563 | | |
| | 90 | 1253 | 51 | 739 | 43 | 527 | 591 | | |
| 500 | 70 | 1179 | 48 | 584 | 34 | 728 | 834 | 1,8 | 3 |
| | 80 | 1572 | 64 | 877 | 51 | 793 | 900 | | |
| | 90 | 1842 | 75 | 1083 | 63 | 838 | 945 | | |
| 750 | 70 | 1400 | 57 | 688 | 40 | 1031 | 1190 | 2,5 | 3 |
| | 80 | 1867 | 76 | 1032 | 60 | 1109 | 1268 | | |
| | 90 | 2186 | 89 | 1290 | 75 | 1162 | 1321 | | |
| 1000 | 70 | 1572 | 64 | 774 | 45 | 1325 | 1538 | 2,7 | 3 |
| | 80 | 2113 | 86 | 1169 | 68 | 1415 | 1628 | | |
| | 90 | 2481 | 101 | 1462 | 85 | 1477 | 1690 | | |
| 1500 | 70 | 2137 | 87 | 1049 | 61 | 1951 | 2271 | 3,7 | 4 |
| | 80 | 2874 | 117 | 1599 | 93 | 2074 | 2393 | | |
| | 90 | 3390 | 138 | 1995 | 116 | 2160 | 2479 | | |
| 2000 | 70 | 2506 | 102 | 1221 | 71 | 2545 | 2970 | 4,3 | 4 |
| | 80 | 3341 | 136 | 1840 | 107 | 2684 | 3110 | | |
| | 90 | 3931 | 160 | 2287 | 133 | 2782 | 3208 | | |
| 3000 | 70 | 3022 | 123 | 1479 | 86 | 3695 | 4333 | 5,2 | 4 |
| | 80 | 4029 | 164 | 2236 | 130 | 3862 | 4501 | | |
| | 90 | 4717 | 192 | 2786 | 162 | 3977 | 4615 | | |

- a continuous DHW flow with TuACS= 45°C
- b power of the exchanger with TuACS=45°C
- c continuous DHW flow with TuACS= 60°C
- d power of the exchanger with TuACS=60°C
- e amount of DHW at 45°C in the first 20 min. with a storage temperature of 50°C
- f amount of DHW at 45°C in the first 10 min. with a storage temperature of 60°C
- Exchanger capacity: 6,40 L/m²

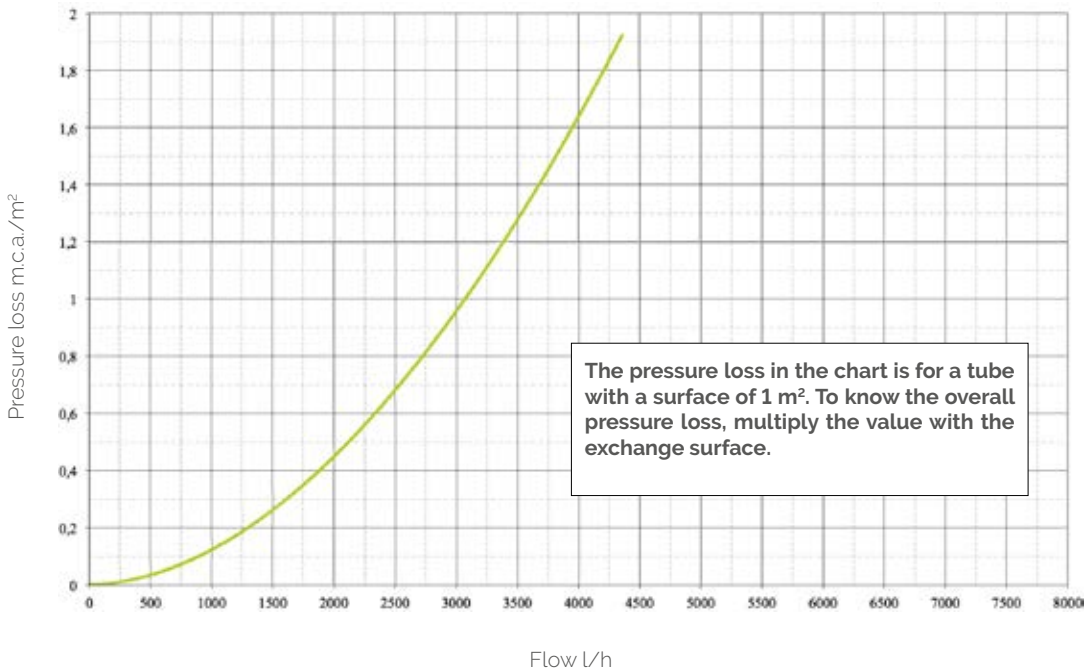
# Technical information for SMART 1 series




**Legend**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Gas water heater / additional source |
| 4 | DHW temperature probe |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Safety group |
| 9 | Electrical resistor (optional) |

## Pressure loss fixed heat exchanger



# Glass lined water heater with two fixed internal heat exchangers – SMART 2

The Smart 2 range consists of Water heaters for the production of domestic hot water with a double fixed heat exchanger, available in several capacities (from 200 up to 3000 litres). They are equipped with different type of insulation (see chart below), external PVC coating, a magnesium anode for protection against galvanic currents, an inspection flange for easy access during the control and maintenance phase.



**Material:** S 235 JR carbon steel

**Treatment for internal protection:** The boilers with a capacity of up to 1000 l are treated with food grade inorganic glass lining in accordance with DIN 4753.3, those with a capacity of 1500 to 3000 l with Bluetech.

WRAS APPROVED MATERIAL

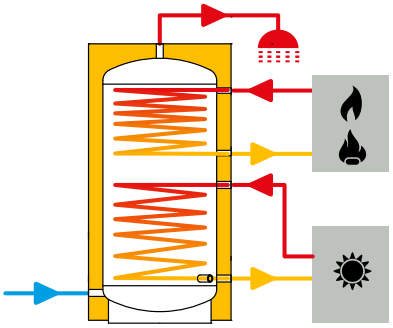
TESTED

## Insulation

| Capacity (l) | Type |
|---|---|
| from 200 to 1000 | Highly rigid polyurethane foam |
| from 1500 | Polyester Fiber |

## Operational limits

| | Storage | | Primary circuit | |
|---|---|---|---|---|
| Capacity (l) | temp. max. | pressure max. | temp. max. | pressure max. |
| from 200 to 1000 | 95°C | 10 bar | 110°C | 12 bar |
| from 1500 to 3000 | 80°C | 6 bar | 110°C | 12 bar |



**Supplied accessories:** Safety valve and thermometer for sizes up to 1000 l, magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296

| Capacity l | Code | Price | Energy label | Vertical Packaging Dimensions cm | Vertical Packaging Weight kg |
|---|---|---|---|---|---|
| 200 | 819060323X | | B | 60x60x150 | 84 |
| 300 | 819060324X | | B | 70x70x155 | 119 |
| 500 | 819060325X | | C | 80x80x180 | 158 |
| 750 | 819060326X | | C | 95x95x185 | 229 |
| 1000 | 819060327X | | C | 110x110x210 | 270 |
| 1500 | 819080003X | | C | 130x130x245 | 320 |
| 2000 | 819080004X | | C | 140x140x275 | 417 |
| 3000 | 819080006X | | | 150x150x300 | 504 |

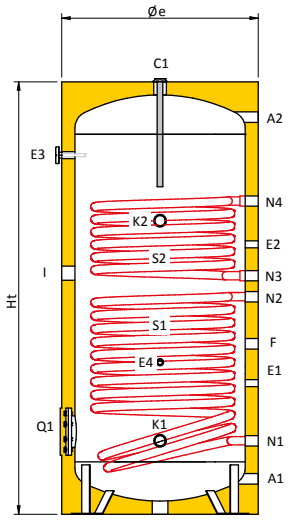


**Integration with AQUAFAST**

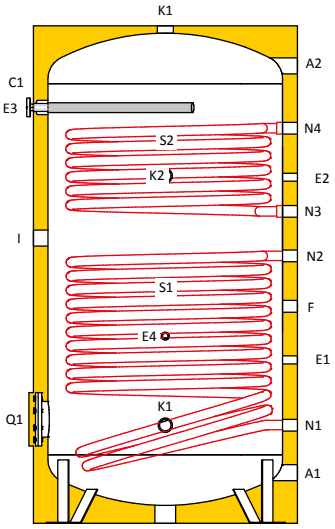
See page 212

# Glass lined water heater with two fixed internal heat exchangers – SMART 2

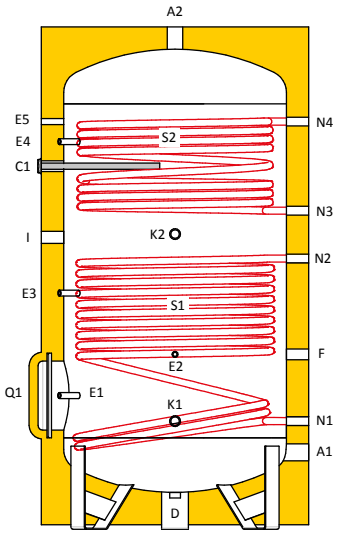
200 ≤ cap. ≤ 500




750 ≤ cap. ≤ 1.000




1.500 ≤ cap. ≤ 3.000




### Couplings legend

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **E4** | Probe / Thermometer |
| **E5** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **N3** | Upper exchanger outlet |
| **N4** | Upper exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |
| **S2** | Upper exchanger |

### Couplings chart

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | E3 inch | E4 inch | E5 inch | F inch | I inch | K1 inch | K2 inch | N1 inch | N2 inch | N3 inch | N4 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | - | - | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 300 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | - | - | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 500 | 1" | 1" | 1"1/4 | - | 1/2" | 1/2" | 1/2" | - | - | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | - | 1/2" | 1/2" | 1/2" | - | - | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | - | 1/2" | 1/2" | 1/2" | - | - | 1" | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 1500 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø380/Ø300 |
| 2000 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø380/Ø300 |
| 3000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø380/Ø300 |

### Size chart

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | A2 mm | C1 mm | D mm | E1 mm | E2 mm | E3 mm | E4 mm | E5 mm | F mm | I mm | K1 mm | K2 mm | N1 mm | N2 mm | N3 mm | N4 mm | Q1 mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 560 | 1325 | 1440 | 120 | 1220 | 1325 | - | 390 | 910 | 1115 | - | - | 520 | 755 | 230 | 1070 | 230 | 710 | 810 | 1045 | 280 |
| 300 | 660 | 1380 | 1530 | 130 | 1260 | 1380 | - | 415 | 985 | 1145 | - | - | 545 | 770 | 245 | 1085 | 245 | 720 | 820 | 1100 | 295 |
| 500 | 760 | 1650 | 1820 | 135 | 1515 | 1650 | - | 500 | 1030 | 1350 | - | - | 650 | 860 | 280 | 1120 | 280 | 810 | 910 | 1195 | 320 |
| 750 | 910 | 1675 | 1910 | 170 | 1540 | 1400 | - | 550 | 1165 | 1400 | - | - | 730 | 980 | 330 | 1170 | 330 | 900 | 1050 | 1330 | 350 |
| 1000 | 1010 | 1965 | 2210 | 190 | 1810 | 1670 | - | 570 | 1235 | 1670 | - | - | 730 | 970 | 350 | 1190 | 350 | 920 | 1070 | 1400 | 380 |
| 1500 | 1250 | 2280 | 2605 | 345 | 2280 | 1630 | 165 | 600 | 785 | 1060 | 1740 | 1830 | 785 | 1310 | 485 | 1325 | 485 | 1215 | 1430 | 1830 | 600 |
| 2000 | 1350 | 2600 | 2930 | 345 | 2600 | 1965 | 155 | 605 | 780 | 1165 | 2065 | 2150 | 815 | 1495 | 480 | 1320 | 480 | 1325 | 1690 | 2150 | 605 |
| 3000 | 1450 | 2870 | 3220 | 400 | 2870 | 2120 | 180 | 665 | 850 | 1375 | 2225 | 2410 | 875 | 1625 | 550 | 1390 | 550 | 1540 | 1680 | 2410 | 665 |

R*: reversal quota

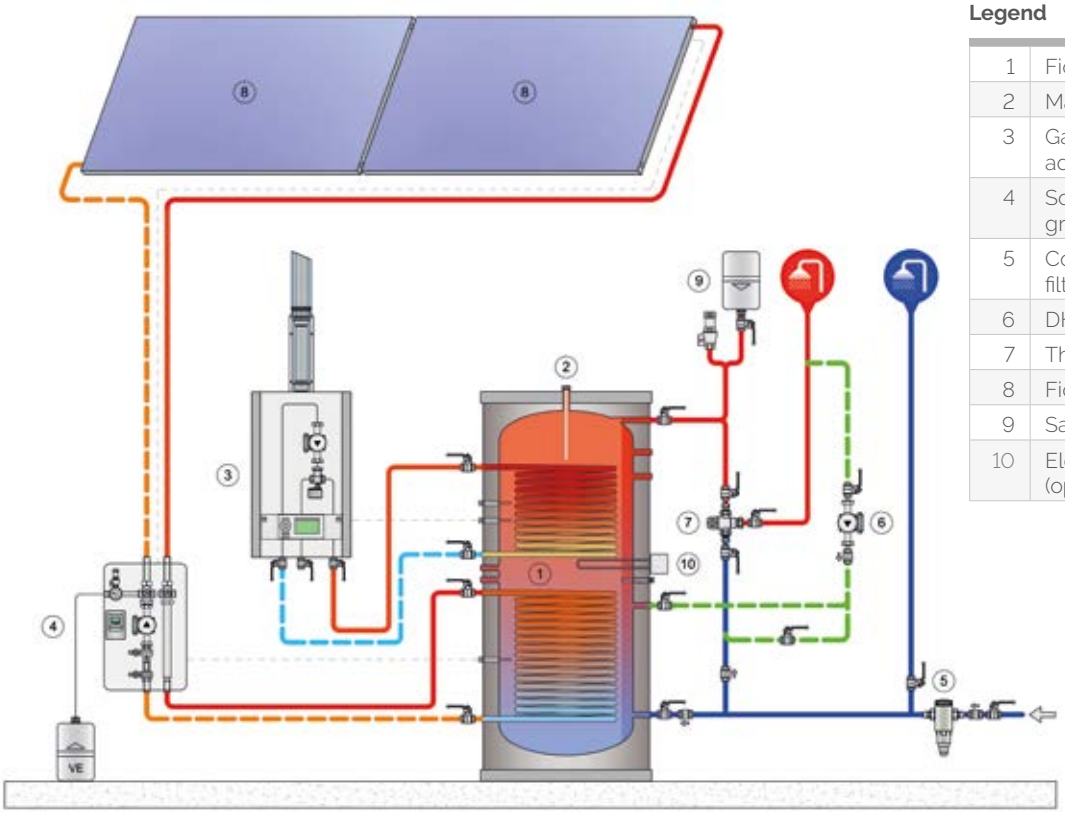
Q1**: Height from inspection hole center to the ground

# Technical information for SMART 2 series

| | | DHW production TiACS = 10°C | | | | | | Upper Exchanger | Lower Exchanger | |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuACS= 45°C | | TuACS = 60°C | | Ta = 50°C TuACS = 45°C | Ta = 60°C TuACS = 45°C | Surface area | Surface area | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/h (c) | kW (d) | l/10 min. (e) | l/10 min. (f) | m² | m² | mc/h |
| 200 | 70 | 417 | 17 | 206 | 12 | 282 | 324 | 0,5 | 1 | 3 |
| | 80 | 540 | 22 | 292 | 17 | 302 | 345 | | | |
| | 90 | 614 | 25 | 361 | 21 | 315 | 357 | | | |
| 300 | 70 | 638 | 26 | 309 | 18 | 425 | 489 | 0,8 | 1,3 | 3 |
| | 80 | 860 | 35 | 481 | 28 | 462 | 526 | | | |
| | 90 | 1007 | 41 | 584 | 34 | 486 | 550 | | | |
| 500 | 70 | 638 | 26 | 309 | 18 | 638 | 744 | 1 | 1,8 | 3 |
| | 80 | 860 | 35 | 481 | 28 | 675 | 781 | | | |
| | 90 | 1007 | 41 | 584 | 34 | 699 | 806 | | | |
| 750 | 70 | 688 | 28 | 344 | 20 | 912 | 1072 | 1,2 | 2,5 | 3 |
| | 80 | 933 | 38 | 516 | 30 | 953 | 1112 | | | |
| | 90 | 1081 | 44 | 636 | 37 | 978 | 1137 | | | |
| 1000 | 70 | 884 | 36 | 430 | 25 | 1211 | 1423 | 1,5 | 2,7 | 3 |
| | 80 | 1179 | 48 | 653 | 38 | 1260 | 1473 | | | |
| | 90 | 1376 | 56 | 808 | 47 | 1293 | 1505 | | | |
| 1500 | 70 | 1326 | 54 | 653 | 38 | 1816 | 2135 | 2,3 | 3,7 | 6,0 |
| | 80 | 1793 | 73 | 980 | 57 | 1894 | 2213 | | | |
| | 90 | 2113 | 86 | 1238 | 72 | 1947 | 2267 | | | |
| 2000 | 70 | 1744 | 71 | 860 | 50 | 2418 | 2843 | 3 | 4,3 | 8,0 |
| | 80 | 2334 | 95 | 1290 | 75 | 2516 | 2942 | | | |
| | 90 | 2727 | 111 | 1599 | 93 | 2582 | 3007 | | | |
| 3000 | 70 | 2211 | 90 | 1083 | 63 | 3559 | 4198 | 3,8 | 5,2 | 8,0 |
| | 80 | 2948 | 120 | 1634 | 95 | 3682 | 4321 | | | |
| | 90 | 3440 | 140 | 2029 | 118 | 3764 | 4403 | | | |

- a continuous DHW flow with TuACS= 45°C
- b power of the exchanger with TuACS=45°C
- c continuous DHW flow with TuACS= 60°C
- d power of the exchanger with TuACS=60°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- f amount of DHW at 45°C in the first 10 min. with a storage temperature of 60°C
- Exchanger capacity: 6,40 L/m²

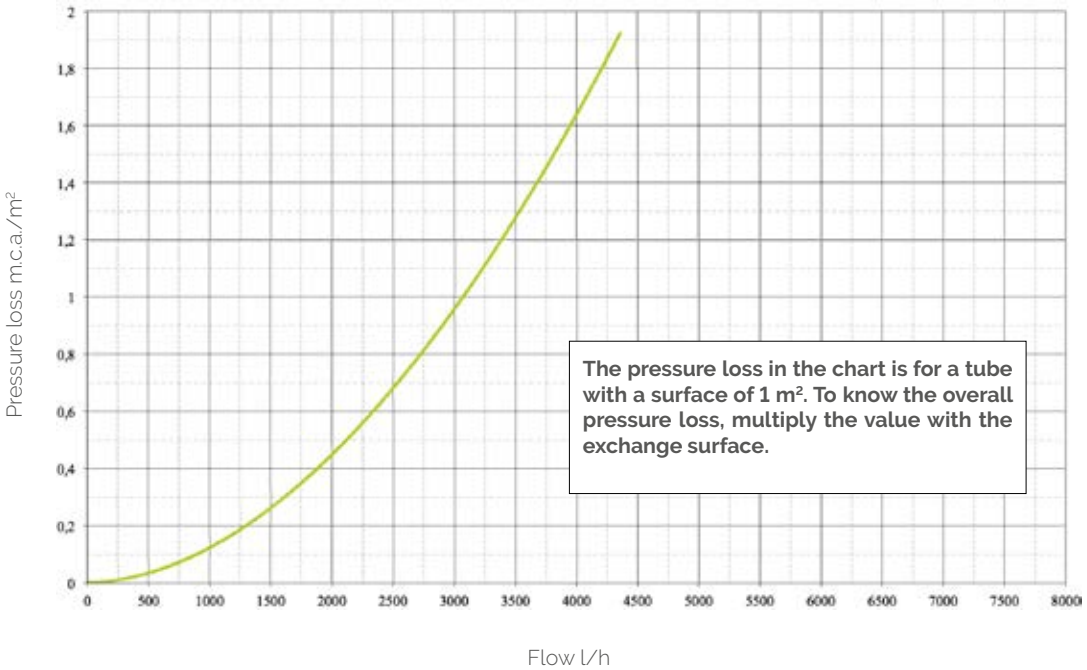
# Technical information for SMART 2 series




**Legend**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Gas water heater / additional source |
| 4 | Solar thermal return group |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Fiorini solar panel |
| 9 | Safety group |
| 10 | Electrical resistor (optional) |

## Pressure loss fixed heat exchanger



# Glass lined water heater with a fixed heat exchanger for Heat pumps – SMART HP

The HP range consists of water heaters for the production of domestic hot water with a double spiral single heat exchanger with a large surface, to be connected with a heat pump. The heaters are available in several capacities, from 300 to 1000 l and are insulated with very thick high density rigid polyurethane, externally covered with PVC and provided with a magnesium anode to protect against galvanic currents and an inspection flange for easy access during the inspection and maintenance phase.



**Material:** S 235 JR carbon steel

**Treatment for internal protection:** Food grade inorganic glass lining according to DIN 4753.3

WRAS APPROVED MATERIAL

TESTED

### Insulation

| Capacity (l) | Type |
|---|---|
| from 300 to 1000 | Highly rigid polyurethane foam |

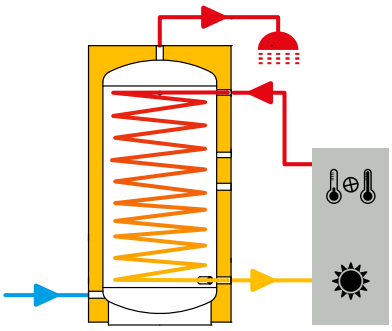
### Operational limits

| | Storage | | Primary circuit | |
|---|---|---|---|---|
| Cap. l | max. temperature | max. pressure | max. temperature | max. pressure |
| from 300 to 1000 | 95°C | 10 bar | 110°C | 12 bar |

**Supplied accessories:** Safety valve and thermometer, magnesium sacrificial anode.

**Standard accessories:** see pag 294

| Capacity l | | | | Vertical Packaging | |
|---|---|---|---|---|---|
| | Code | Price | Energy label | Dimensions cm | Weight kg |
| 300 | 819060303X | | B | 70X70X155 | 128 |
| 500 | 819060304X | | C | 80x80x180 | 179 |
| 750 | 819060305X | | C | 95x95x185 | 252 |
| 1000 | 819060306X | | C | 105X105X210 | 291 |



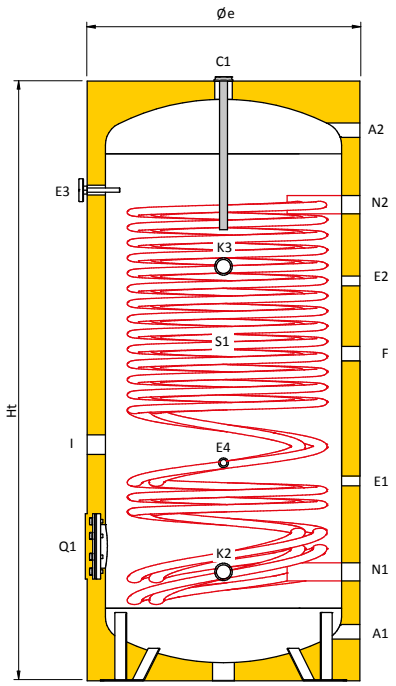


**Integration with AQUAFAST**

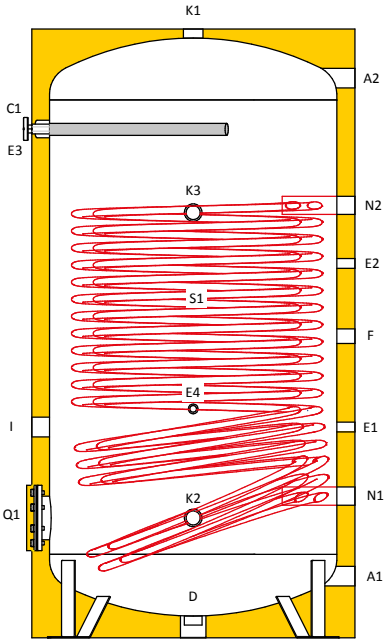
See page 212

# Glass lined water heater with a fixed heat exchanger for Heat pumps – SMART HP

300 ≤ cap. ≤ 500




750 ≤ cap. ≤ 1.000




Couplings legend

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **E4** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **K3** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |

## Couplings chart

| Cap. l | A1 inch | A2 inch | C1 mm | E1 inch | E2 mm | E3 inch | E4 mm | F inch | I inch | K1 inch | K2 mm | K3 inch | N1 inch | N2 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | 1" | 1" | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | - | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 500 | 1" | 1" | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | - | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |

## Size chart

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | A2 mm | C1 mm | E1 mm | E2 mm | E3 mm | E4 mm | F mm | I mm | K1 mm | K2 mm | K3 mm | N1 mm | N2 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | 660 | 1380 | 1530 | 130 | 1260 | 1380 | 375 | 965 | 1145 | 545 | 795 | 545 | - | 245 | 1085 | 245 | 1145 | 335 |
| 500 | 760 | 1650 | 1820 | 135 | 1515 | 1650 | 550 | 1100 | 1350 | 600 | 900 | 650 | - | 300 | 1140 | 300 | 1310 | 370 |
| 750 | 910 | 1675 | 1910 | 170 | 1540 | 1400 | 580 | 1030 | 1400 | 630 | 830 | 580 | 1675 | 330 | 1170 | 390 | 1190 | 330 |
| 1000 | 1010 | 1965 | 2210 | 190 | 1810 | 1670 | 580 | 1000 | 1670 | 650 | 800 | 590 | 1965 | 350 | 1190 | 400 | 1150 | 350 |

R*: reversal quota

Q1**: Height from inspection hole center to the ground

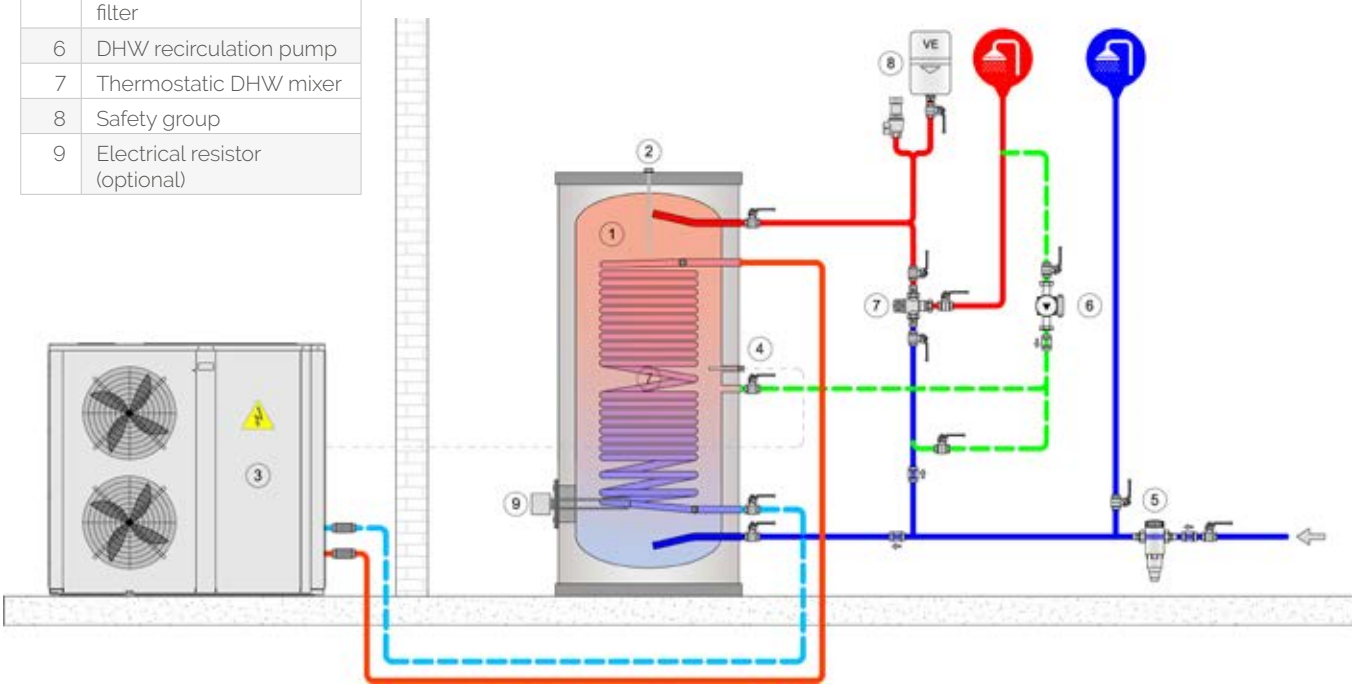
# Technical information for SMART HP series

| | | DHW production TiDHW = 10°C | | | Exchanger | |
|---|---|---|---|---|---|---|
| Capacity | Ti | TuDHW= 45°C | | Ta = 50°C TuDHW = 45°C | Surface area | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/10 min. (e) | m² | mc/h |
| 300 | 50 | 688 | 28 | 433 | 3,65 | 4,0 |
| | 80 | 2236 | 91 | 691 | | |
| 500 | 50 | 958 | 39 | 691 | 5,2 | 4,0 |
| | 80 | 2432 | 99 | 937 | | |
| 750 | 50 | 982 | 40 | 961 | 6 | 4,0 |
| | 80 | 3390 | 138 | 1362 | | |
| 1000 | 50 | 982 | 40 | 1227 | 6 | 4,0 |
| | 80 | 3390 | 138 | 1628 | | |

- a continuous DHW flow with TuDHW= 45°C
- b power of the exchanger with TuACS=45°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- Exchanger capacity: 6,40 L/m²

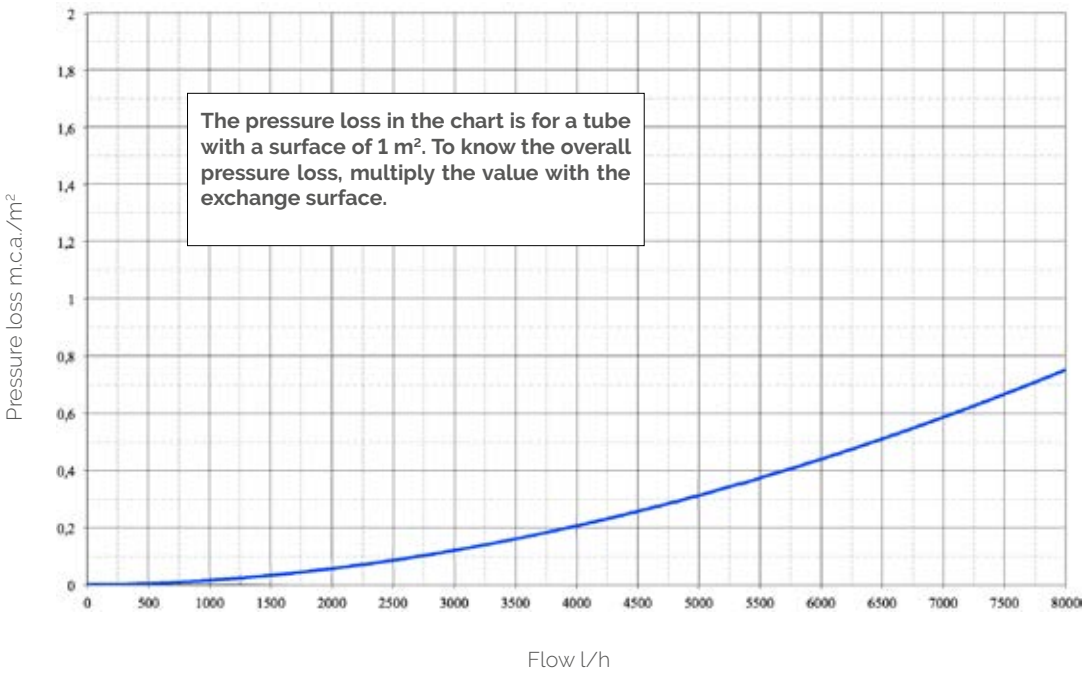
**Legend**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Heat pump / additional source |
| 4 | DHW temperature probe |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Safety group |
| 9 | Electrical resistor (optional) |



# Technical information for SMART HP series

## Pressure loss fixed heat exchanger



# Glass lined water heater with fixed double heat exchanger for Heat pumps – SMART HP 2

The HP 2 range consists of water heaters for the production of domestic hot water with a double fixed heat exchangers, one simple and one with double spiral with a large surface, to be coupled with a heat pump together with additional sources (solar, gas water heater). The heaters are available in the capacities of 300 and 500 l and are insulated with very thick high density rigid polyurethane, externally covered with PVC and provided with a magnesium anode to protect against galvanic currents and an inspection flange for easy access during the inspection and maintenance phase.

**Material:** S 235 JR carbon steel

**Treatment for internal protection:** Food grade inorganic glass lining according to DIN 4753.3

WRAS APPROVED MATERIAL

### Insulation

| Capacity (l) | Type |
|---|---|
| from 300 to 1000 | Highly rigid polyurethane foam |

### Operational limits

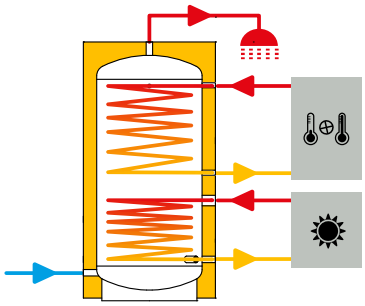
| Cap. l | Storage | | Primary circuit | |
|---|---|---|---|---|
| | max. temperature | max. pressure | max. temperature | max. pressure |
| from 300 to 1000 | 95°C | 10 bar | 110°C | 12 bar |

**Supplied accessories:** Safety valve and thermometer, magnesium sacrificial anode.

**Standard accessories:** see pag 294



TESTED



| Capacity l | Code | Price | Energy label | Vertical Packaging | |
|---|---|---|---|---|---|
| | | | | Dimensions cm | Weight kg |
| 300 | 819060307X | | B | 70X70X155 | 129 |
| 500 | 819060308X | | C | 80X80X180 | 182 |
| 750 | 819060309X | | C | 95X95X185 | 264 |
| 1000 | 819060310X | | C | 105X105X210 | 314 |

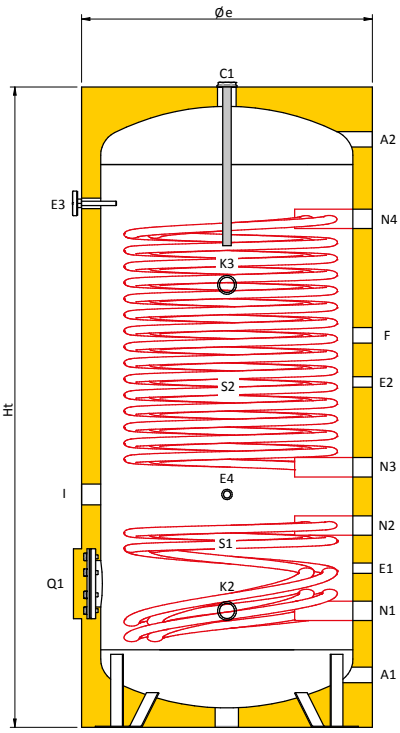


**Integration with AQUAFAST**

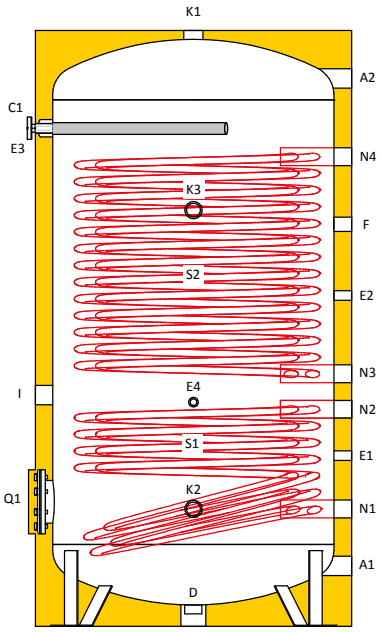
See page 212

# Glass lined water heater with fixed double heat exchanger for Heat pumps – SMART HP 2

300 ≤ cap. ≤ 500




750 ≤ cap. ≤ 1.000




### Couplings legend

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **E4** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **K3** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **N3** | Upper exchanger outlet |
| **N4** | Upper exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |
| **S2** | Upper exchanger |

### Couplings chart

| Cap. l | A1 inch | A2 inch | C1 inch | E1 inch | E2 inch | E3 inch | E4 inch | F inch | I inch | K1 inch | K2 inch | K3 inch | N1 inch | N2 inch | N3 inch | N4 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | 1" | 1" | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | - | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 500 | 1" | 1" | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | - | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1/2" | 1" | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |

### Size chart

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | A2 mm | C1 mm | E1 mm | E2 mm | E3 mm | E4 mm | F mm | I mm | K1 mm | K2 mm | K3 mm | N1 mm | N2 mm | N3 mm | N4 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 300 | 660 | 1380 | 1530 | 130 | 1260 | 1380 | 355 | 945 | 1145 | 545 | 795 | 530 | - | 245 | 1085 | 245 | 465 | 595 | 1145 | 345 |
| 500 | 760 | 1650 | 1820 | 135 | 1515 | 1650 | 410 | 890 | 1350 | 600 | 1010 | 600 | - | 300 | 1140 | 300 | 520 | 670 | 1310 | 370 |
| 750 | 910 | 1675 | 1910 | 170 | 1540 | 1400 | 480 | 930 | 1400 | 650 | 1130 | 650 | 1675 | 330 | 1170 | 330 | 610 | 710 | 1320 | 350 |
| 1000 | 1010 | 1965 | 2210 | 190 | 1810 | 1670 | 500 | 945 | 1670 | 630 | 1150 | 680 | 1965 | 350 | 1190 | 350 | 635 | 735 | 1390 | 360 |

R*: reversal quota

Q1**: Height from inspection hole center to the ground

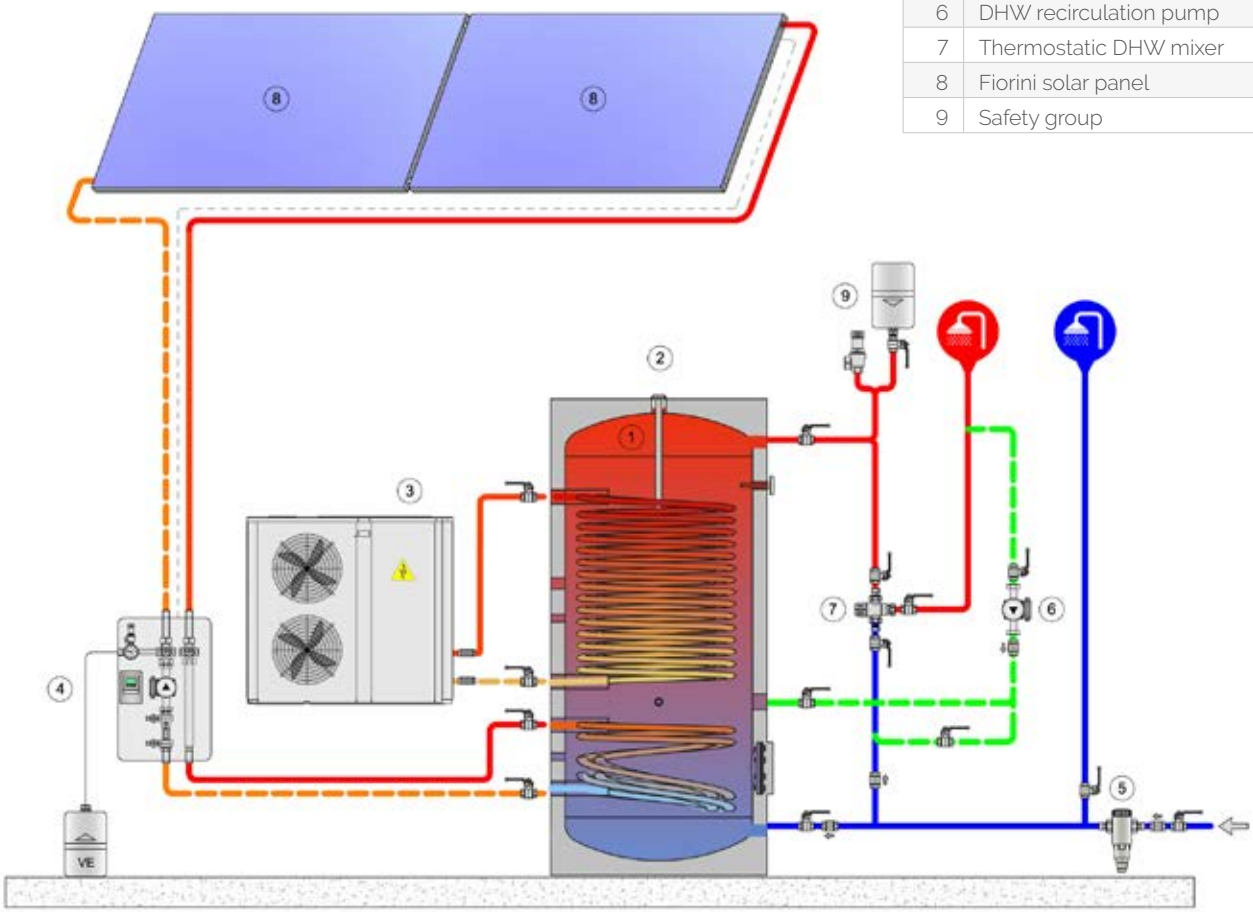
# Technical information for SMART HP 2 series

| | | DHW production TiACS = 10°C | | | Exchanger | | |
|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuACS= 45°C | | Ta = 50°C TuACS = 45°C | Upper exchanger surface | Lower exchanger surface | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/10 min. (e) | m² | m² | mc/h |
| 300 | 50 | 553 | 22,5 | 435 | 2,7 | 0,98 | 1,6 |
| | 80 | 1501 | 61,1 | 593 | | | 2,6 |
| 500 | 50 | 860 | 35 | 715 | 4,1 | 1,1 | 1,5 |
| | 80 | 2334 | 95 | 960 | | | 4,1 |
| 750 | 50 | 1380 | 52 | 920 | 4,9 | 2,2 | 3 |
| | 80 | 2800 | 115 | 1170 | | | 4,1 |
| 1000 | 50 | 1580 | 62 | 1080 | 5,5 | 2,5 | 3 |
| | 80 | 3000 | 135 | 1310 | | | 4,1 |

- a continuous DHW flow with TuDHW= 45°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- Exchanger capacity: 6,40 L/m²

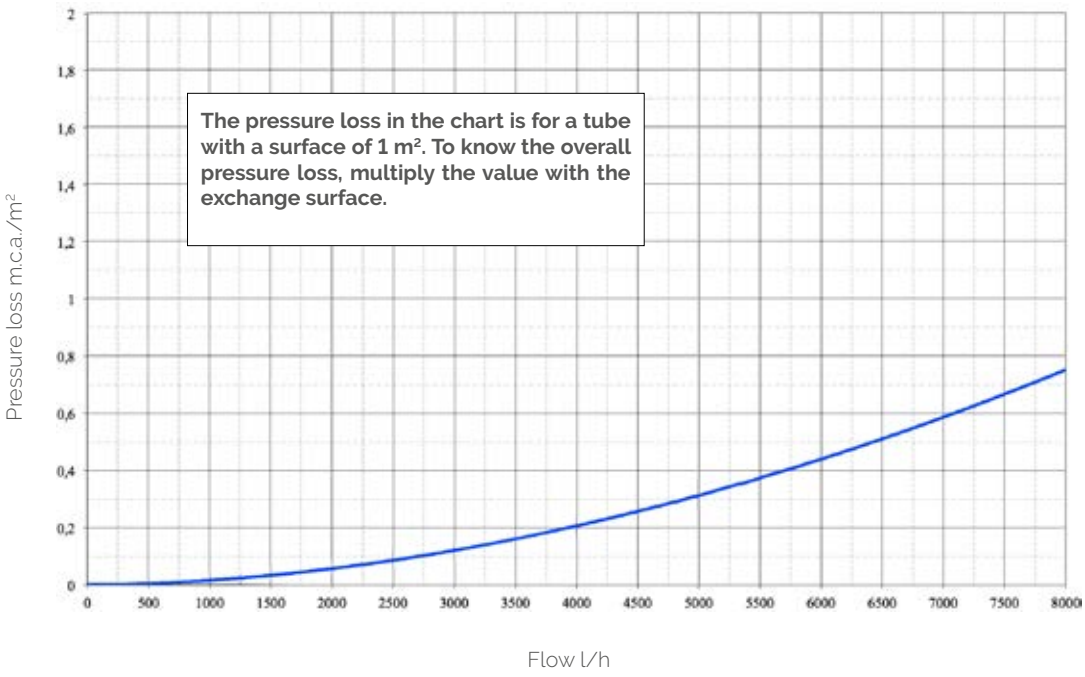
**Key**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Heat pump |
| 4 | Solar thermal return group |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Fiorini solar panel |
| 9 | Safety group |



# Technical information for SMART HP 2 series

## Pressure loss fixed heat exchanger



# Stainless steel water heater with fixed heat exchanger - SMART INOX 1

The SMART INOX 1 range consists of water heaters for the production of sanitary hot water with a single fixed heat exchanger. They are available in several capacities, from 200 up to 3000 litres and have different insulation with respect to capacity (see chart below) and coated externally in PVC and equipped with a magnesium anode for the protection against galvanic currents, an inspection flange for the easy access during the inspection and maintenance phase.

**Material:** AISI 316 stainless steel

**Treatment for internal protection:** Pickling and passivation



| Capacity (l) | Type |
|---|---|
| from 200 to 3.000 | Polyester Fiber |

## Insulation

| Storage | | Primary circuit | |
|---|---|---|---|
| max. temperature | max. pressure | max. temperature | max. pressure |
| 95°C | 6 bar | 110°C | 12 bar |

## Operational limits

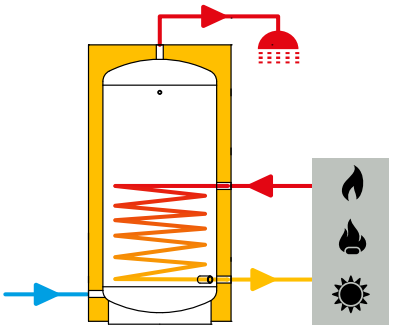
**Supplied accessories:** Magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296

| Capacity l | Code | Price | Energy label | Vertical Packaging Dimensions cm |
|---|---|---|---|---|
| 200 | 819040114X | | B | 70x70x165 |
| 300 | 819040115X | | B | 80x80x170 |
| 500 | 819040116X | | C | 90x90x190 |
| 750 | 819040117X | | C | 100x100x210 |
| 1000 | 819040118X | | C | 110x110x230 |
| 1500 | 819040119X | | C | 130x130x240 |
| 2000 | 819040120X | | C | 150x150x250 |
| 2500 | 819040121X | | | 150x150x275 |
| 3000 | 819040122X | | | 150x150x300 |

TESTED



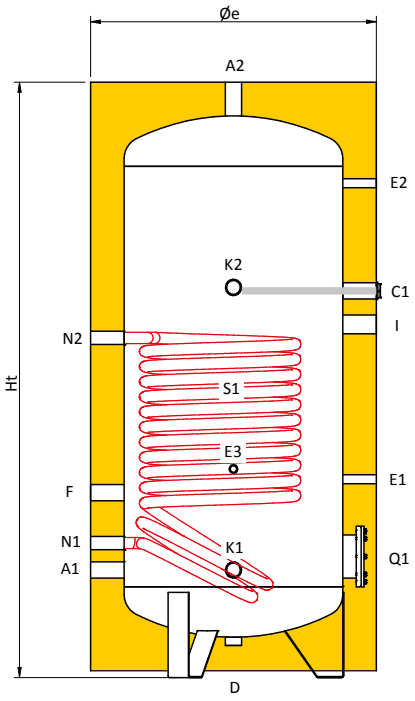


**Integration with AQUAFAST**

See page 212

# Stainless steel water heater with fixed heat exchanger - SMART INOX 1

**200 ≤ cap. ≤ 3.000**




**Couplings legend**

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **N1** | Exchanger outlet |
| **N2** | Exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger (see pag. 188) |

**Couplings chart**

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | E3 inch | F inch | I inch | K1 inch | K2 inch | N1 inch | N2 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 3/4" | 3/4" | Ø180/Ø120 |
| 300 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 3/4" | 3/4" | Ø180/Ø120 |
| 500 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1500 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/2 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 2000 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 2500 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 3000 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |

**Size chart**

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | C1 mm | D mm | E1 mm | E2 mm | E3 mm | F mm | I mm | N1 mm | N2 mm | K1 mm | K2 mm | Q1 mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 650 | 1410 | 1535 | 265 | 880 | 120 | 535 | 1165 | 565 | 495 | 800 | 345 | 775 | 265 | 1105 | 305 |
| 300 | 750 | 1490 | 1650 | 305 | 920 | 120 | 575 | 1205 | 605 | 535 | 840 | 385 | 815 | 305 | 1145 | 345 |
| 500 | 850 | 1770 | 1945 | 320 | 1150 | 120 | 590 | 1470 | 620 | 550 | 1050 | 400 | 1010 | 320 | 1160 | 360 |
| 750 | 990 | 1810 | 2045 | 340 | 1090 | 120 | 610 | 1490 | 640 | 570 | 1010 | 420 | 970 | 340 | 1180 | 380 |
| 1000 | 1050 | 2100 | 2350 | 390 | 1320 | 120 | 630 | 1760 | 690 | 620 | 1220 | 470 | 1180 | 390 | 1230 | 400 |
| 1500 | 1250 | 2235 | 2560 | 480 | 1400 | 165 | 840 | 1850 | 780 | 710 | 1300 | 560 | 1210 | 480 | 1320 | 560 |
| 2000 | 1450 | 2315 | 2735 | 515 | 1455 | 155 | 875 | 1885 | 815 | 765 | 1355 | 615 | 1275 | 515 | 1355 | 595 |
| 2500 | 1400 | 2615 | 2970 | 515 | 1555 | 155 | 875 | 2155 | 815 | 765 | 1455 | 615 | 1385 | 515 | 1355 | 595 |
| 3000 | 1450 | 2850 | 3200 | 545 | 1715 | 180 | 905 | 2385 | 845 | 805 | 1615 | 655 | 1480 | 545 | 1385 | 625 |

R*: reversal quota

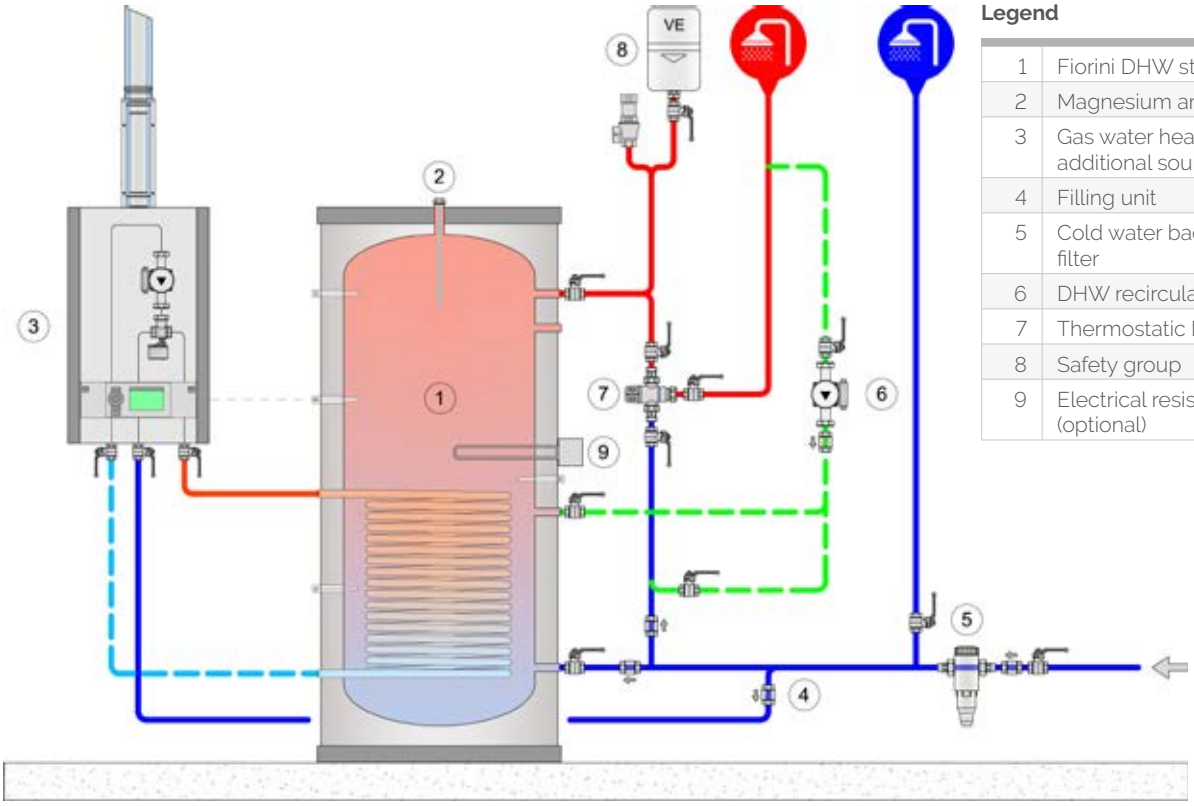
Q**: Height from inspection hole center to the ground

# Technical information for SMART INOX 1 series

| | | DHW production TiDHW = 10°C | | | | | | Exchanger | |
|---|---|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuDHW= 45°C | | TuDHW = 60°C | | Ta = 50°C TuDHW = 45°C | Ta = 60°C TuDHW = 45°C | Surface area | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/h (c) | kW (d) | l/10 min. (e) | l/10 min. (f) | m² | mc/h |
| 200 | 70 | 565 | 23 | 275 | 16 | 306 | 349 | 0,8 | 3,0 |
| | 80 | 761 | 31 | 430 | 25 | 339 | 382 | | |
| | 90 | 884 | 36 | 516 | 30 | 360 | 402 | | |
| 300 | 70 | 737 | 30 | 361 | 21 | 441 | 505 | 1,2 | 3,0 |
| | 80 | 982 | 40 | 550 | 32 | 482 | 546 | | |
| | 90 | 1154 | 47 | 670 | 39 | 511 | 575 | | |
| 500 | 70 | 1105 | 45 | 550 | 32 | 716 | 822 | 1,8 | 3,0 |
| | 80 | 1474 | 60 | 825 | 48 | 777 | 883 | | |
| | 90 | 1744 | 71 | 1014 | 59 | 822 | 928 | | |
| 800 | 70 | 1400 | 57 | 688 | 40 | 1084 | 1254 | 2,7 | 4,0 |
| | 80 | 1867 | 76 | 1032 | 60 | 1162 | 1332 | | |
| | 90 | 2186 | 89 | 1290 | 75 | 1215 | 1385 | | |
| 1000 | 70 | 1842 | 75 | 911 | 53 | 1370 | 1583 | 3,5 | 6,0 |
| | 80 | 2481 | 101 | 1376 | 80 | 1477 | 1690 | | |
| | 90 | 2924 | 119 | 1720 | 100 | 1551 | 1763 | | |
| 1500 | 70 | 2309 | 94 | 1135 | 66 | 1980 | 2299 | 4,0 | 6,0 |
| | 80 | 3120 | 127 | 1720 | 100 | 2115 | 2434 | | |
| | 90 | 3661 | 149 | 2150 | 125 | 2205 | 2525 | | |
| 2000 | 70 | 2801 | 114 | 1376 | 80 | 2594 | 3020 | 4,8 | 8,0 |
| | 80 | 3734 | 152 | 2064 | 120 | 2749 | 3175 | | |
| | 90 | 4373 | 178 | 2562 | 149 | 2856 | 3282 | | |
| 2500 | 70 | 3292 | 134 | 1634 | 95 | 3208 | 3740 | 5,6 | 8,0 |
| | 80 | 4398 | 179 | 2442 | 142 | 3392 | 3924 | | |
| | 90 | 5160 | 210 | 3027 | 176 | 3519 | 4051 | | |
| 3000 | 70 | 3734 | 152 | 1823 | 106 | 3813 | 4452 | 6,4 | 8,0 |
| | 80 | 4963 | 202 | 2752 | 160 | 4018 | 4656 | | |
| | 90 | 5823 | 237 | 3440 | 200 | 4161 | 4800 | | |

- a continuous DHW flow with TuDHW= 45°C
- b exchanger power with TuDHW=45°C
- c continuous DHW flow with TuDHW= 60°C
- d exchanger power with TuDHW=60°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- f amount of DHW at 45°C in the first 10 min. with a storage temperature of 60°C
- Exchanger capacity: 6,40 L/m²

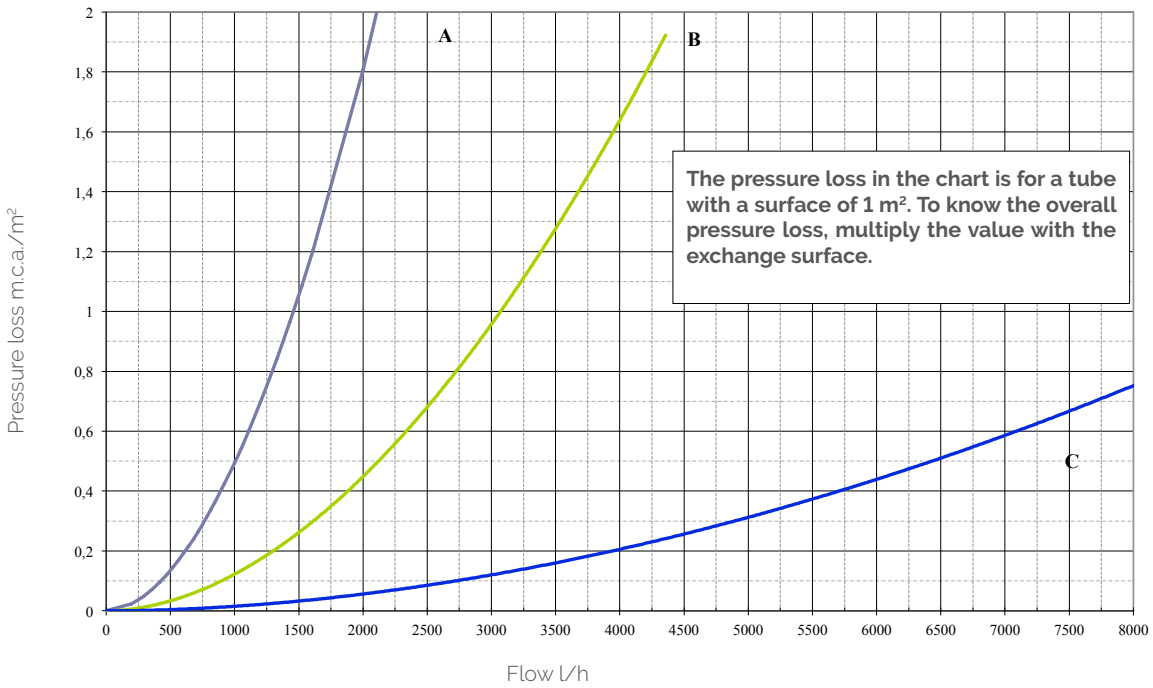
# Technical information for SMART INOX 1 series




**Legend**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Gas water heater / additional source |
| 4 | Filling unit |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Safety group |
| 9 | Electrical resistor (optional) |

## Pressure loss fixed heat exchanger




A) 200 l tank B) 300 - 500 l tank C) 800 - 3000 l tank

# Stainless steel water heater with double fixed heat exchanger - SMART INOX 2

The SMART INOX 2 range consists of water heaters for the production of domestic hot water with a double fixed heat exchanger. They are available in several capacities, from 200 up to 3000 litres and have different insulation with respect to capacity (see chart below) and coated externally in PVC and equipped with a magnesium anode for the protection against galvanic currents, an inspection flange for the easy access during the inspection and maintenance phase.

**Material:** AISI 316 stainless steel

**Treatment for internal protection:** Pickling and passivation



TESTED

### Insulation

| Capacity (l) | Type |
|---|---|
| from 200 to 3.000 | Polyester Fiber |

### Operational limits

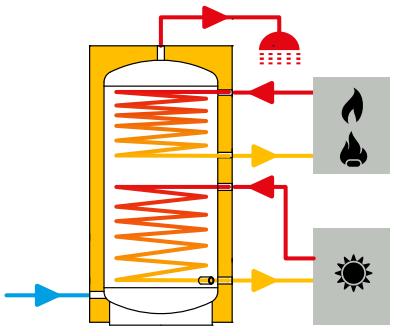
| Storage | | Primary circuit | |
|---|---|---|---|
| max. temperature | max. pressure | max. temperature | max. pressure |
| 95°C | 6 bar | 110°C | 12 bar |

**Supplied accessories:** Magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296

| Capacity l | Code | Price | Energy label | Vertical Packaging Dimensions cm |
|---|---|---|---|---|
| 200 | 819040123X | | B | 70x70x160 |
| 300 | 819040124X | | B | 80x80x165 |
| 500 | 819040125X | | C | 90x90x195 |
| 750 | 819040126X | | C | 100x100x200 |
| 1000 | 819040127X | | C | 110x110x225 |
| 1500 | 819040128X | | C | 130x130x240 |
| 2000 | 819040129X | | C | 150x150x245 |
| 2500 | 819040130X | | | 150x150x275 |
| 3000 | 819040131X | | | 150x150x300 |



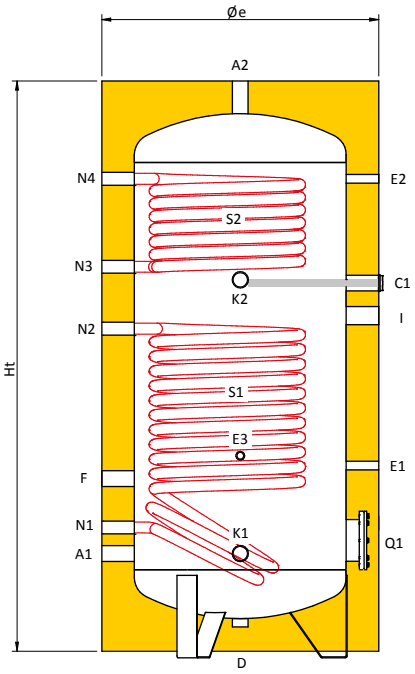


**Integration with AQUAFAST**

See page 212

# Stainless steel water heater with double fixed heat exchanger - SMART INOX 2

**200 ≤ cap. ≤ 3.000**




**Couplings legend**

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **D** | Drain |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **N3** | Upper exchanger outlet |
| **N4** | Upper exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |
| **S2** | Upper exchanger |

**Couplings chart**

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | E3 inch | F inch | I inch | K1 inch | K2 inch | N1 inch | N2 inch | N3 inch | N4 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 3/4" | 3/4" | 3/4" | 3/4" | Ø180/Ø120 |
| 300 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 3/4" | 3/4" | 3/4" | 3/4" | Ø180/Ø120 |
| 500 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1" | 1" | 1" | 1" | Ø180/Ø120 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø180/Ø120 |
| 1500 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/2 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 2000 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 2500 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |
| 3000 | 1"1/2 | 1"1/2 | 1"1/4 | 2" | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø220 |

**Size chart**

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | C1 mm | D mm | E1 mm | E2 mm | E3 mm | F mm | I mm | K1 mm | K2 mm | N1 mm | N2 mm | N3 mm | N4 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 650 | 1410 | 1535 | 265 | 880 | 120 | 535 | 1165 | 565 | 495 | 800 | 265 | 1105 | 920 | 1165 | 265 | 1105 | 305 |
| 300 | 750 | 1490 | 1650 | 305 | 920 | 120 | 575 | 1205 | 605 | 535 | 840 | 305 | 1145 | 995 | 1205 | 305 | 1145 | 345 |
| 500 | 850 | 1770 | 1945 | 320 | 1150 | 120 | 590 | 1470 | 620 | 550 | 1050 | 320 | 1160 | 1200 | 1470 | 320 | 1160 | 360 |
| 750 | 990 | 1810 | 2045 | 340 | 1090 | 120 | 610 | 1490 | 640 | 570 | 1010 | 340 | 1180 | 1160 | 1490 | 340 | 1180 | 380 |
| 1000 | 1050 | 2100 | 2350 | 390 | 1320 | 120 | 630 | 1760 | 690 | 620 | 1220 | 390 | 1230 | 1430 | 1760 | 390 | 1230 | 400 |
| 1500 | 1250 | 2235 | 2560 | 480 | 1400 | 165 | 840 | 1850 | 780 | 710 | 1300 | 480 | 1320 | 1490 | 1820 | 480 | 1320 | 560 |
| 2000 | 1450 | 2315 | 2735 | 515 | 1455 | 155 | 875 | 1885 | 815 | 765 | 1355 | 515 | 1355 | 1585 | 1855 | 515 | 1355 | 595 |
| 2500 | 1400 | 2615 | 2970 | 515 | 1555 | 155 | 875 | 2155 | 815 | 765 | 1455 | 515 | 1355 | 1830 | 2155 | 515 | 1355 | 595 |
| 3000 | 1450 | 2850 | 3200 | 545 | 1715 | 180 | 905 | 2385 | 845 | 805 | 1615 | 655 | 1385 | 2040 | 2365 | 545 | 1385 | 625 |

R*: reversal quota

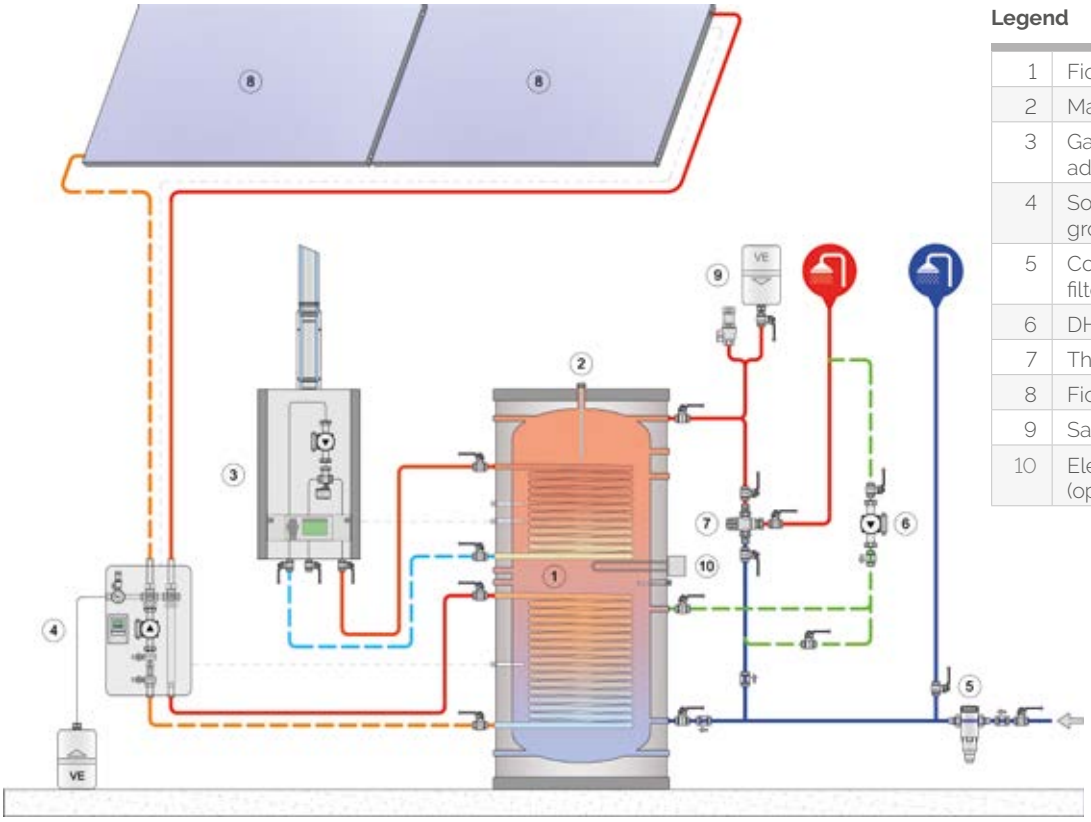
Q1**: Height from inspection hole center to the ground

# Technical information for SMART INOX 2 series

| | | DHW production TiDHW = 10°C (upper exchanger) | | | | | | Upper exchanger | Lower exchanger | |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuDHW= 45°C | | TuDHW = 60°C | | Ta = 50°C TuDHW = 45°C | Ta = 60°C TuDHW = 45°C | Surface area | Surface area | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/h (c) | kW (d) | l/10 min. (e) | l/10 min. (f) | m² | m² | mc/h |
| 200 | 70 | 270 | 11 | 137 | 8 | 257 | 300 | 0,5 | 0,8 | 3,0 |
| | 80 | 368 | 15 | 206 | 12 | 274 | 316 | | | |
| | 90 | 442 | 18 | 258 | 15 | 286 | 328 | | | |
| 300 | 70 | 344 | 14 | 154 | 9 | 376 | 440 | 0,7 | 1,2 | 3,0 |
| | 80 | 442 | 18 | 258 | 15 | 392 | 456 | | | |
| | 90 | 516 | 21 | 309 | 18 | 405 | 468 | | | |
| 500 | 70 | 589 | 24 | 292 | 17 | 630 | 736 | 1,0 | 1,8 | 3,0 |
| | 80 | 786 | 32 | 430 | 25 | 662 | 769 | | | |
| | 90 | 909 | 37 | 533 | 31 | 683 | 789 | | | |
| 800 | 70 | 688 | 28 | 344 | 20 | 965 | 1135 | 1,6 | 2,7 | 4,0 |
| | 80 | 933 | 38 | 516 | 30 | 1006 | 1176 | | | |
| | 90 | 1081 | 44 | 636 | 37 | 1031 | 1201 | | | |
| 1000 | 70 | 688 | 28 | 344 | 20 | 1178 | 1391 | 1,8 | 3,5 | 6,0 |
| | 80 | 933 | 38 | 516 | 30 | 1219 | 1432 | | | |
| | 90 | 1081 | 44 | 636 | 37 | 1243 | 1456 | | | |
| 1500 | 70 | 909 | 37 | 447 | 26 | 1747 | 2066 | 1,6 | 4,0 | 6,0 |
| | 80 | 1228 | 50 | 688 | 40 | 1800 | 2119 | | | |
| | 90 | 1449 | 59 | 860 | 50 | 1837 | 2156 | | | |
| 2000 | 70 | 1154 | 47 | 567 | 33 | 2319 | 2745 | 2,0 | 4,8 | 8,0 |
| | 80 | 1548 | 63 | 860 | 50 | 2385 | 2811 | | | |
| | 90 | 1818 | 74 | 1066 | 62 | 2430 | 2856 | | | |
| 2500 | 70 | 1400 | 57 | 688 | 40 | 2892 | 3424 | 2,4 | 5,6 | 8,0 |
| | 80 | 1867 | 76 | 1049 | 61 | 2970 | 3502 | | | |
| | 90 | 2211 | 90 | 1290 | 75 | 3028 | 3559 | | | |
| 3000 | 70 | 1400 | 57 | 688 | 40 | 3424 | 4063 | 2,4 | 6,4 | 8,0 |
| | 80 | 1867 | 76 | 1032 | 60 | 3502 | 4140 | | | |
| | 90 | 2186 | 89 | 1290 | 75 | 3555 | 4194 | | | |

- a continuous DHW flow with TuDHW= 45°C
- b exchanger power with TuDHW=45°C
- c continuous DHW flow with TuDHW= 60°C
- d exchanger power with TuDHW=60°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- f amount of DHW at 45°C in the first 10 min. with a storage temperature of 60°C
- Exchanger capacity: 6,40 L/m²

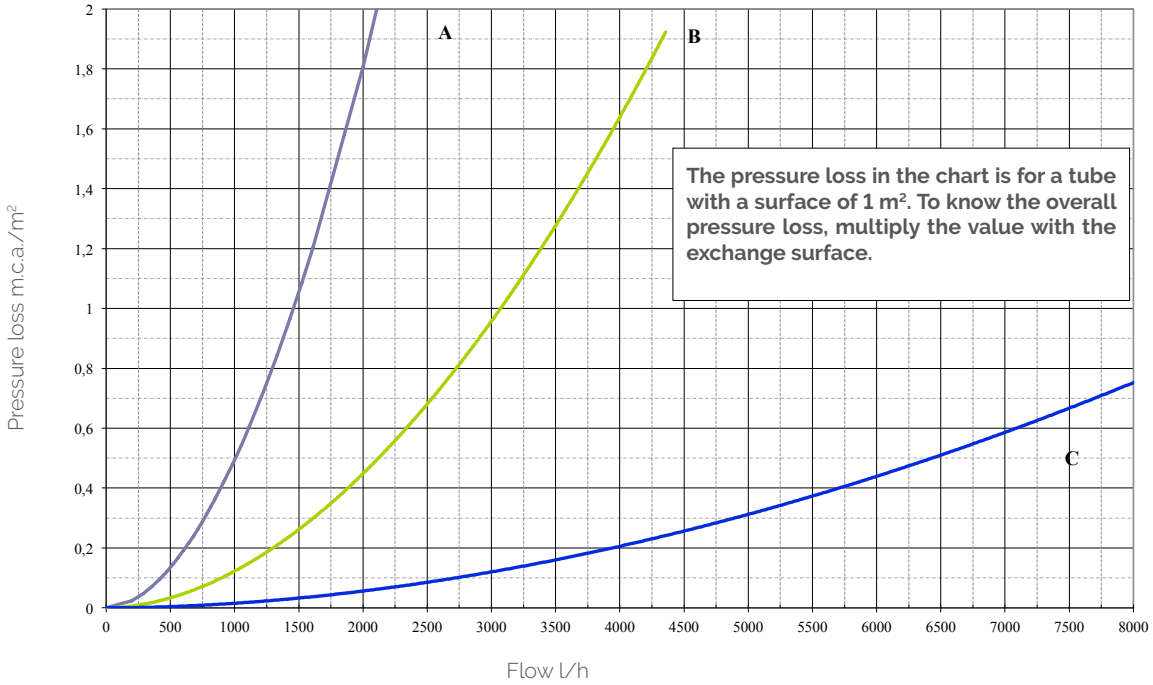
# Technical information for SMART INOX 2 series




**Legend**

| | |
|---|---|
| 1 | Fiorini DHW storage tank |
| 2 | Magnesium anode |
| 3 | Gas water heater / additional source |
| 4 | Solar thermal return group |
| 5 | Cold water bacteriostatic filter |
| 6 | DHW recirculation pump |
| 7 | Thermostatic DHW mixer |
| 8 | Fiorini solar panel |
| 9 | Safety group |
| 10 | Electrical resistor (optional) |

## Pressure loss fixed heat exchanger




A) 200 l tank B) 300 - 500 l tank C) 800 - 3000 l tank

# Water heater with fixed heat exchanger
# SMART UP

SMART UP is the fixed-coil water heater with a compact design, specifically created for under-boiler installation. Thanks to its dimensions, it easily fits into narrow niches, as all hydraulic connections are located on the top, offering convenient access during installation. The use of efficient rigid polyurethane foam insulation ensures long-term water temperature retention and economical operation. The porcelain-glass-coated boiler body provides accurate protection of the internal surface, while the replaceable magnesium anode offers additional corrosion protection. The external casing is made of white-painted metal sheet.




TESTED

**Material:** S 235 JR carbon steel
**Treatment for internal protection:** glass lining

### Insulation

| Capacity (l) | Type |
|---|---|
| from 100 to 200 | Highly rigid polyurethane foam |

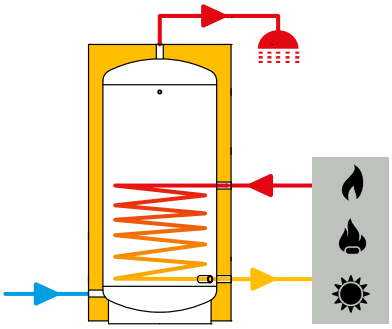
### Operational limits

| Storage | | Primary circuit | |
|---|---|---|---|
| max. temperature | max. pressure | max. temperature | max. pressure |
| 95°C | 6 bar | 110°C | 12 bar |

**Supplied accessories:** Sacrificial Magnesium Anode and Thermometer.

**Standard accessories:** see page 294

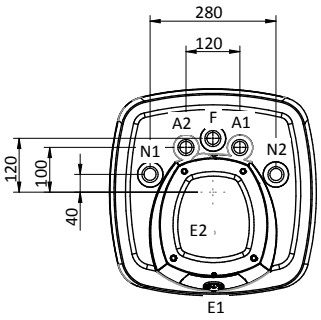
**Special executions:** see page 296

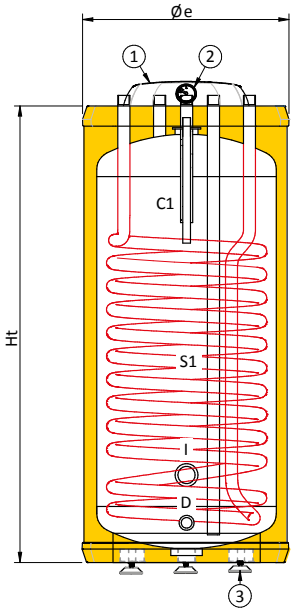


| Capacity l | Code | Price | Energy label | Net weight kg |
|---|---|---|---|---|
| 100 | 819060192X | | C | 57 |
| 120 | 819060193X | | C | 62 |
| 140 | 819060190X | | C | 67 |
| 200 | 819060191X | | C | 85 |

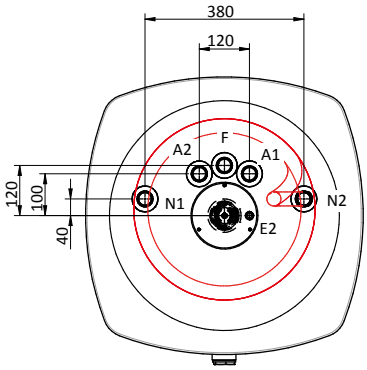
# Water heater with fixed heat exchanger
# SMART UP

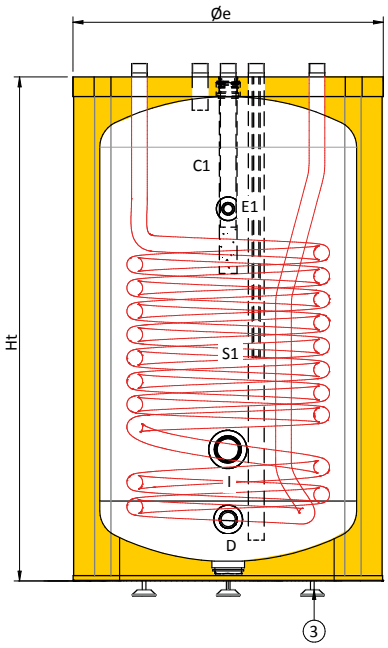
**100 ≤ cap. ≤ 140**




**cap. = 200**




**Couplings legend**

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Thermometer |
| **E2** | Probe |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **N1** | Exchanger outlet |
| **N2** | Exchanger inlet |
| **S1** | Exchanger |
| **1** | Flange Cover Cap |
| **2** | Thermometer |
| **3** | Adjustable feet |

**Couplings chart**

| Cap. l | A1 inches | A2 inches | C1 inches | D inches | E1 inches | E2 inches | F inches | I inches | N1 inches | N2 inches |
|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 3/4" | 3/4" | 1"1/4 | 3/4" | 3/8" | 3/8" | 3/4" | 1"1/4 | 3/4" | 3/4" |
| 120 | 3/4" | 3/4" | 1"1/4 | 3/4" | 3/8" | 3/8" | 3/4" | 1"1/4 | 3/4" | 3/4" |
| 140 | 3/4" | 3/4" | 1"1/4 | 3/4" | 3/8" | 3/8" | 3/4" | 1"1/4 | 3/4" | 3/4" |
| 200 | 1" | 1" | 1"1/4 | 1" | 1/2" | 3/8" | 1" | 1"1/2 | 1" | 1" |

**Size chart**

| Cap. l | Øe mm | Ht mm | D mm | I mm | S1 m² |
|---|---|---|---|---|---|
| 200 | 455 | 1030 | 90 | 195 | 1,2 |
| 300 | 455 | 1130 | 90 | 195 | 1,2 |
| 500 | 455 | 1280 | 90 | 195 | 1,2 |
| 750 | 650 | 1130 | 130 | 280 | 1,6 |

# Water heater with tube heat exchanger – BOIL

The BOIL range consists of water heaters with a tube heat exchanger for the production of domestic hot water. There are several capacities, from 200 up to 5000 litres. They are equipped, depending on the capacity, with insulation (see chart below), an external cover in PVC and a magnesium anode for the protection against galvanic currents.



TESTED

### Materials

The boilers are made from high quality materials such as:

- Tank: carbon steel S 235 JR
- Tube heat exchanger: galvanized stainless steel AISI 304
- Exchanger head: galvanized carbon steel S 235 JR

### Internal protective treatment

- up to 1000 litres inorganic **glass lining**, according to DIN 4753.3
- from 1500 litres **Bluetech enamelling** with thermosetting resins, suitable for DHW

WRAS APPROVED MATERIAL

### Insulation

| Capacity (l) | Type |
|---|---|
| from 200 to 1000 | Highly rigid polyurethane foam |
| from 1500 | Polyester Fiber |

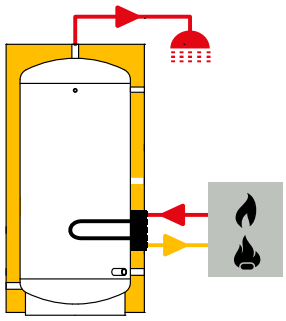
### Operational limits

| | Storage | | Primary circuit | |
|---|---|---|---|---|
| Capacity l | max. temperature | max. pressure | max. temperature | max. pressure |
| up to 1000 | 95°C | 10 bar | 110°C | 12 bar |
| from 1500 | 80°C | 6 bar | 110°C | 12 bar |

**Supplied accessories:** Safety valve and thermometer for sizes up to 1000 l, magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296



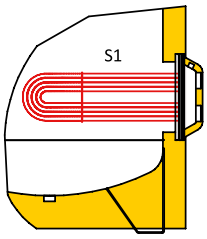
| Capacity l | Code | Price | Energy label | Vertical Packaging Dimensions cm | Vertical Packaging Weight kg |
|---|---|---|---|---|---|
| 200 | 818060081X | | A | 75X75X125 | 84 |
| 300 | 818060082X | | A | 75x75x150 | 96 |
| 500 | 818060083X | | B | 85x85x180 | 136 |
| 750 | 818060084X | | C | 100x100x180 | 221 |
| 1000 | 818060085X | | C | 105x105x210 | 269 |
| 1500 | 818080375X | | C | 130x130x245 | 289 |
| 2000 | 818080361X | | C | 140x140x275 | 368 |
| 2500 | 818080362X | | | 145x145x280 | 410 |
| 3000 | 818080363X | | | 150x150x300 | 459 |
| 4000 | 818080364X | | | 165x165x310 | 638 |
| 5000 | 818080365X | | | 185x185x315 | 738 |



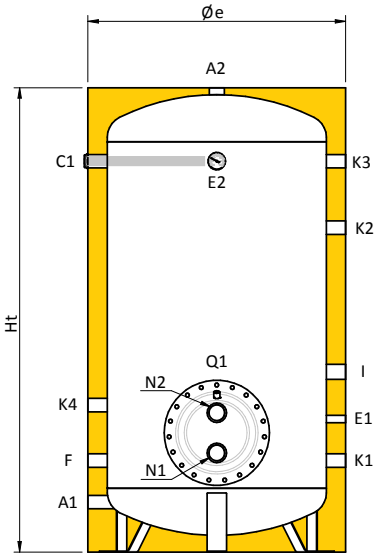
**Integration with AQUAFAST**

See page 212

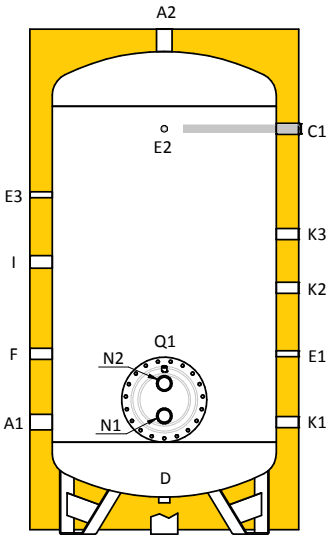
# Water heater
# with tube heat exchanger – BOIL

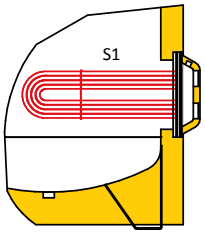



**200 ≤ cap. ≤ 1.000**




**1.500 ≤ cap. ≤ 5.000**




**Couplings legend**

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **C2** | Anode |
| **D** | Drain |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **E3** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **K3** | Auxiliary |
| **K4** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |

**Couplings chart**

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | E3 inch | F inch | I inch | K1 inch | K2 inch | K3 inch | K4 inch | N1 inch | N2 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1"1/4 | 1"1/4 | 1"1/4 | - | 1/2" | 1/2" | - | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1" | 1" | Ø300/Ø220 |
| 300 | 1"1/4 | 1"1/4 | 1"1/4 | - | 1/2" | 1/2" | - | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1" | 1" | Ø300/Ø220 |
| 500 | 1"1/4 | 1"1/4 | 1"1/4 | - | 1/2" | 1/2" | - | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1" | 1" | Ø300/Ø220 |
| 750 | 1"1/4 | 1"1/4 | 1"1/4 | - | 1/2" | 1/2" | - | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø380/Ø300 |
| 1000 | 1"1/4 | 1"1/4 | 1"1/4 | - | 1/2" | 1/2" | - | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø380/Ø300 |
| 1500 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø380/Ø300 |
| 2000 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø430/Ø350 |
| 2500 | 2"1/2 | 2"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø430/Ø350 |
| 3000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø430/Ø350 |
| 4000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø430/Ø350 |
| 5000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | - | 2" | 2" | Ø430/Ø350 |

**Size chart**

| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | C1 mm | D mm | E1 mm | E2 mm | E3 mm | F mm | I mm | K1 mm | K2 mm | K3 mm | K4 mm | N1 mm | N2 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 710 | 1105 | 1315 | 150 | 885 | - | 295 | 885 | - | 295 | 445 | 150 | 595 | 990 | 495 | 285 | 405 | 345 |
| 300 | 710 | 1355 | 1530 | 150 | 1135 | - | 445 | 1135 | - | 295 | 595 | 295 | 795 | 1135 | 495 | 295 | 415 | 355 |
| 500 | 810 | 1635 | 1825 | 145 | 1390 | - | 460 | 1390 | - | 310 | 610 | 310 | 1150 | 1390 | 510 | 310 | 430 | 370 |
| 750 | 950 | 1675 | 1925 | 180 | 1410 | - | 480 | 1410 | - | 330 | 650 | 330 | 1170 | 1410 | 530 | 358 | 503 | 430 |
| 1000 | 1010 | 1965 | 2210 | 200 | 1680 | - | 500 | 1680 | - | 350 | 670 | 350 | 1190 | 1680 | 550 | 378 | 523 | 450 |
| 1500 | 1250 | 2280 | 2600 | 500 | 1810 | 165 | 805 | 1810 | 1515 | 805 | 1215 | 500 | 1100 | 1340 | - | 5287 | 673 | 600 |
| 2000 | 1350 | 2600 | 2930 | 505 | 2115 | 155 | 805 | 2115 | 1805 | 805 | 1505 | 505 | 1105 | 1345 | - | 525 | 715 | 620 |
| 2500 | 1400 | 2655 | 3000 | 565 | 2150 | 175 | 865 | 2150 | 1850 | 850 | 1550 | 565 | 1165 | 1405 | - | 585 | 775 | 680 |
| 3000 | 1450 | 2870 | 3215 | 575 | 2350 | 180 | 800 | 2350 | 2050 | 850 | 1750 | 575 | 1050 | 1415 | - | 595 | 785 | 690 |
| 4000 | 1600 | 2940 | 3350 | 600 | 2380 | 160 | 900 | 2380 | 2080 | 870 | 1780 | 600 | 1200 | 1440 | - | 620 | 810 | 715 |
| 5000 | 1800 | 2980 | 3480 | 610 | 2385 | 140 | 910 | 2385 | 2085 | 885 | 1785 | 610 | 1210 | 1450 | - | 630 | 820 | 725 |

R*: reversal quota

Q1**: Height from inspection hole center to the ground

# Stainless steel water heater with tube heat exchanger - BOIL INOX

The BOIL INOX range consists of water heaters with tube heat exchanger for the production of domestic hot water. They are available in several capacities, from 200 up to 5000 litres and equipped with Polyester Fiber insulation, external cover in PVC and a magnesium anode for protection against galvanic currents.



TESTED

### Materials

The boilers are made from high quality materials such as:

- Tank: AISI 316 stainless steel
- Tube heat exchanger: AISI 316 stainless steel
- Exchanger head: galvanized carbon steel S235 JR

**Treatment for internal protection:** Pickling and passivation

### Insulation

| Capacity (l) | Type |
|---|---|
| from 200 to 5000 | Polyester Fiber |

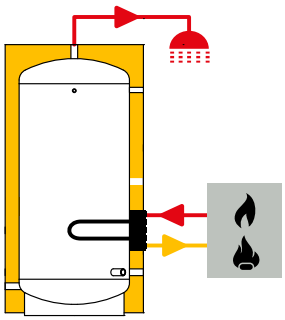
### Operational limits

| Storage | | Primary circuit | |
|---|---|---|---|
| max. temperature | max. pressure | max. temperature | max. pressure |
| 95°C | 6 bar | 110°C | 12 bar |

**Supplied accessories:** Magnesium sacrificial anode for all sizes.

**Standard accessories:** see pag 294

**Special versions:** see pag 296



| Capacity l | Code | Price | Energy label | Vertical Packaging Dimensions cm |
|---|---|---|---|---|
| 200 | 818040113X | | B | 70x70x143 |
| 300 | 818040114X | | B | 80x80x160 |
| 500 | 818040115X | | C | 90x90x195 |
| 750 | 818040116X | | C | 100x100x200 |
| 1000 | 818040117X | | C | 110x110x230 |
| 1500 | 818040118X | | C | 130x130x240 |
| 2000 | 818040119X | | C | 150x150x250 |
| 2500 | 818040120X | | | 150x150x280 |
| 3000 | 818040121X | | | 150x150x300 |
| 4000 | 818040122X | | | 170x170x305 |
| 5000 | 818040123X | | | 190x190x310 |

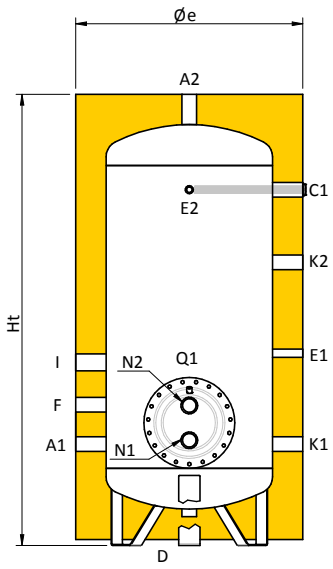


**Integration with AQUAFAST**

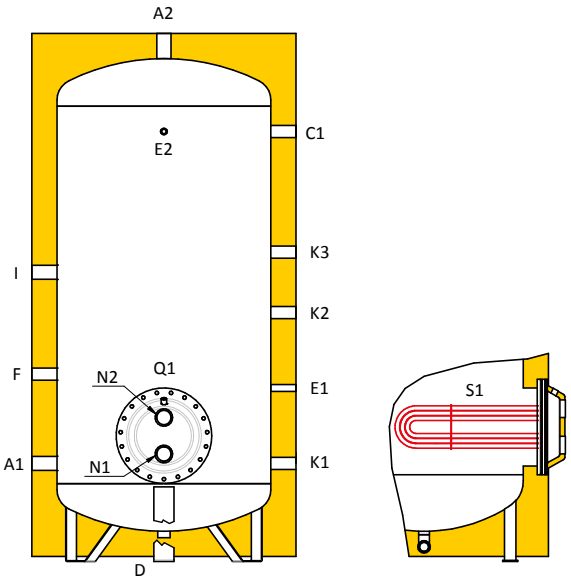
See page 212

# Stainless steel water heater with tube heat exchanger - BOIL INOX

### 200 ≤ cap. ≤ 300




### 500 ≤ cap. ≤ 5000




### Couplings legend

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Probe / Thermometer |
| **E2** | Probe / Thermometer |
| **F** | Recirculation |
| **I** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **K3** | Auxiliary |
| **N1** | Lower exchanger outlet |
| **N2** | Lower exchanger inlet |
| **Q1** | Inspection hole |
| **S1** | Lower exchanger |

### Couplings chart

| Cap. l | A1 inch | A2 inch | C1 inch | D inch | E1 inch | E2 inch | F inch | I inch | K1 inch | K2 inch | K3 inch | N1 inch | N2 inch | Q1 (Øext/Øint) mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | - | 1" | 1" | Ø300/Ø220 |
| 300 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | - | 1" | 1" | Ø300/Ø220 |
| 500 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1" | 1" | Ø300/Ø220 |
| 750 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø380/Ø300 |
| 1000 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø380/Ø300 |
| 1500 | 1"1/2 | 1"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø380/Ø300 |
| 2000 | 2" | 2" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø430/Ø350 |
| 2500 | 2"1/2 | 2"1/2 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø430/Ø350 |
| 3000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø430/Ø350 |
| 4000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø430/Ø350 |
| 5000 | 3" | 3" | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 2" | 2" | Ø430/Ø350 |

### Size chart

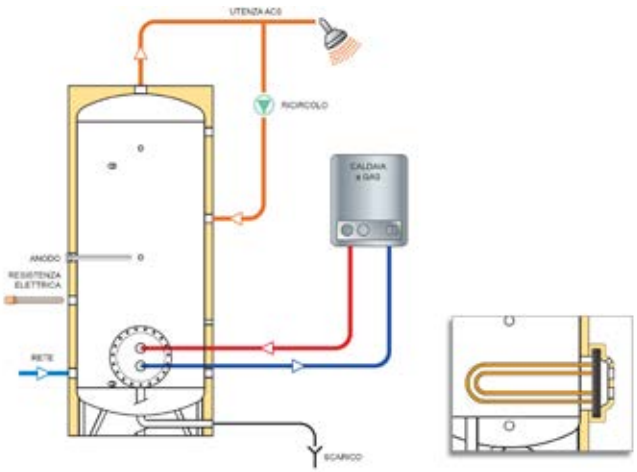
| Cap. l | Øe mm | Ht mm | R* mm | A1 mm | C1 mm | E1 mm | E2 mm | F mm | I mm | K1 mm | K2 mm | K3 mm | N1 mm | N2 mm | Q1** mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 650 | 1410 | 1535 | 295 | 1135 | 595 | 1135 | 425 | 540 | 295 | 915 | - | 305 | 425 | 365 |
| 300 | 750 | 1490 | 1650 | 335 | 1175 | 635 | 1175 | 465 | 605 | 335 | 935 | - | 345 | 465 | 405 |
| 500 | 850 | 1770 | 1945 | 350 | 1420 | 650 | 1420 | 650 | 935 | 350 | 950 | 1190 | 360 | 480 | 420 |
| 750 | 990 | 1810 | 2045 | 370 | 1440 | 670 | 1440 | 700 | 1150 | 370 | 990 | 1210 | 407,5 | 552,5 | 480 |
| 1000 | 1050 | 2100 | 2330 | 390 | 1710 | 690 | 1710 | 745 | 1150 | 390 | 990 | 1230 | 427,5 | 572,5 | 500 |
| 1500 | 1250 | 2235 | 2555 | 490 | 1800 | 795 | 1800 | 795 | 1205 | 490 | 1090 | 1330 | 517,5 | 662,5 | 590 |
| 2000 | 1450 | 2315 | 2725 | 525 | 1835 | 830 | 1835 | 830 | 1240 | 525 | 1125 | 1365 | 555 | 745 | 650 |
| 2500 | 1400 | 2640 | 2895 | 560 | 2145 | 860 | 2145 | 845 | 1545 | 560 | 1160 | 1400 | 575 | 765 | 670 |
| 3000 | 1450 | 2850 | 3155 | 565 | 2340 | 790 | 2340 | 840 | 1740 | 565 | 1040 | 1405 | 585 | 775 | 680 |
| 4000 | 1600 | 2920 | 3295 | 590 | 2370 | 890 | 2370 | 860 | 1770 | 590 | 1190 | 1430 | 610 | 800 | 705 |
| 5000 | 1800 | 2960 | 3425 | 600 | 2375 | 900 | 2375 | 875 | 1775 | 600 | 1200 | 1440 | 620 | 810 | 715 |

R*: reversal quota

Q1**: Height from inspection hole center to the ground

# Technical information for BOIL and BOIL INOX series

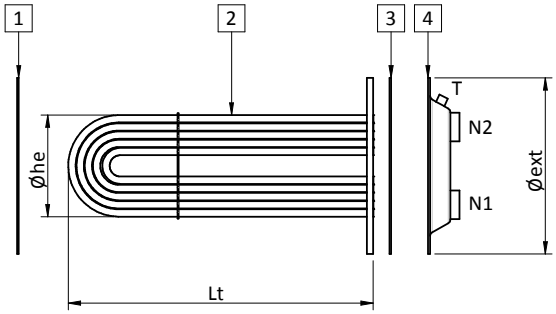
| | | DHW production TiDHW = 10°C | | | | | | Exchanger | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Capacity | Ti | TuDHW= 45°C | | TuDHW = 60°C | | Ta = 50°C TuDHW = 45°C | Ta = 60°C TuDHW = 45°C | Surface area | Capacity | Nominal flow |
| l | °C | l/h (a) | kW (b) | l/h (c) | kW (d) | l/10 min. (e) | l/10 min. (f) | m² | l | mc/h |
| 200 | 70 | 241 | 9,8 | 119 | 4,9 | 258 | 315 | 0,5 | 2 | 0,5 |
| | 80 | 300 | 12,2 | 169 | 6,9 | 266 | 323 | | | 0,6 |
| | 90 | 362 | 14,7 | 214 | 8,7 | 273 | 330 | | | 0,7 |
| 300 | 70 | 364 | 14,8 | 181 | 7,4 | 384 | 470 | 0,75 | 2,8 | 0,7 |
| | 80 | 453 | 18,4 | 252 | 10,3 | 395 | 480 | | | 0,8 |
| | 90 | 544 | 22,1 | 322 | 13,1 | 405 | 491 | | | 1 |
| 500 | 70 | 482 | 19,6 | 240 | 9,8 | 620 | 763 | 1 | 3,6 | 0,9 |
| | 80 | 602 | 24,5 | 336 | 13,7 | 632 | 775 | | | 1,1 |
| | 90 | 580 | 23,6 | 343 | 14 | 644 | 787 | | | 1,1 |
| 750 | 70 | 723 | 29,4 | 358 | 14,6 | 983 | 1212 | 1,5 | 5,9 | 1,3 |
| | 80 | 902 | 36,7 | 506 | 20,6 | 1001 | 1229 | | | 1,6 |
| | 90 | 1084 | 44,1 | 642 | 26,2 | 1018 | 1247 | | | 1,9 |
| 1000 | 70 | 964 | 39,2 | 480 | 19,6 | 1224 | 1510 | 2 | 7,2 | 1,7 |
| | 80 | 1204 | 49 | 675 | 27,5 | 1245 | 1531 | | | 2,2 |
| | 90 | 1445 | 58,8 | 857 | 34,9 | 1266 | 1552 | | | 2,6 |
| 1500 | 70 | 1445 | 58,8 | 728 | 29,7 | 1837 | 2266 | 3 | 10,9 | 2,6 |
| | 80 | 1806 | 73,5 | 1020 | 41,6 | 1869 | 2297 | | | 3,2 |
| | 90 | 2168 | 88,2 | 1292 | 52,6 | 1899 | 2328 | | | 3,8 |
| 2000 | 70 | 1927 | 78,4 | 976 | 39,8 | 2421 | 2992 | 4 | 14,7 | 3,4 |
| | 80 | 2408 | 98 | 1368 | 55,7 | 2454 | 3026 | | | 4,3 |
| | 90 | 2890 | 117,6 | 1731 | 70,5 | 2488 | 3059 | | | 5,1 |
| 2500 | 70 | 2408 | 98 | 1232 | 50,2 | 3014 | 3728 | 5 | 18,5 | 4,3 |
| | 80 | 3010 | 122,5 | 1722 | 70,1 | 3053 | 3767 | | | 5,3 |
| | 90 | 3612 | 147 | 2178 | 88,7 | 3091 | 3805 | | | 6,4 |
| 3000 | 70 | 2890 | 117,6 | 1478 | 60,2 | 3577 | 4434 | 6 | 22 | 5,1 |
| | 80 | 3612 | 147 | 2066 | 84,1 | 3614 | 4471 | | | 6,4 |
| | 90 | 4335 | 176,4 | 2613 | 106,4 | 3650 | 4507 | | | 7,6 |
| 4000 | 70 | 3853 | 156,8 | 2020 | 82,3 | 4775 | 5918 | 8 | 30,1 | 6,8 |
| | 80 | 4816 | 196 | 2802 | 114,1 | 4824 | 5967 | | | 8,5 |
| | 90 | 5780 | 235,2 | 3530 | 143,7 | 4872 | 6015 | | | 10,2 |
| 5000 | 70 | 4816 | 196 | 2978 | 121,2 | 5938 | 7366 | 10 | 36,4 | 8,5 |
| | 80 | 6020 | 245 | 4099 | 166,9 | 5990 | 7419 | | | 10,6 |
| | 90 | 7224 | 294 | 5138 | 209,2 | 6042 | 7470 | | | 12,7 |



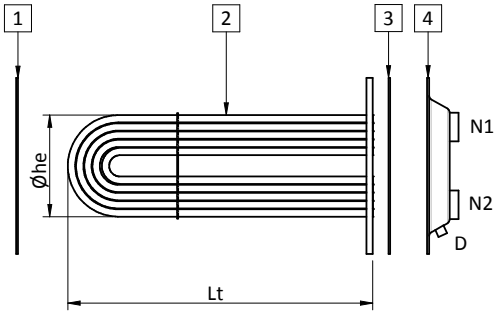

- a continuous DHW flow with TuDHW= 45°C
- b exchanger power with TuDHW=45°C
  c continuous DHW flow with TuDHW= 60°C
- d exchanger power with TuDHW=60°C
- e amount of DHW at 45°C in the first 10 min. with a storage temperature of 50°C
- f amount of DHW at 45°C in the first 10 min. with a storage temperature of 60°C
- Exchanger capacity: 6,40 L/m²

# Technical information for BOIL and BOIL INOX series

## Water only




## Steam only




## Couplings legend

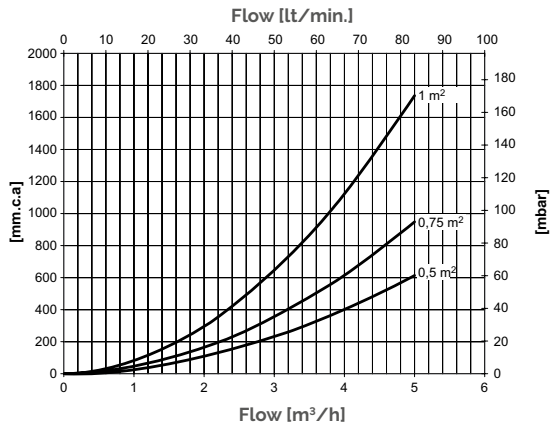
| | |
|---|---|
| **D** | Drain |
| **N1** | Exchanger inlet/outlet |
| **N2** | Exchanger inlet/outlet |
| **T** | Vent |
| **1** | Gasket without cross-beam |
| **2** | Bundle tube heat exchangers |
| **3** | Gasket with cross-beam |
| **4** | Head |

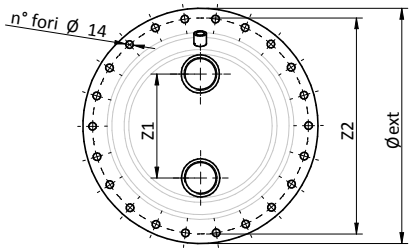
## Technical information tube heat exchanger

| Surf. m² | Power* kW | Lt mm | Øext mm | Øhe mm | N1 inch | N2 inch | T, D inch | Z1 mm | Z2 mm | n° holes | Vol. l | dp mca |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,5 | 12,2 | 460 | 300 | 166 | 1" | 1" | 3/8" | 120 | 262 | 16 | 1,84 | 0,65 |
| 0,75 | 18,4 | 445 | 300 | 202 | 1" | 1" | 3/8" | 120 | 262 | 16 | 2,44 | 0,65 |
| 1 | 24,5 | 475 | 300 | 202 | 1" | 1" | 3/8" | 120 | 262 | 16 | 3,23 | 0,7 |
| 1,5 | 36,7 | 600 | 380 | 270 | 2" | 2" | 3/8" | 145 | 345 | 19 | 5,36 | 0,75 |
| 2 | 49 | 600 | 380 | 270 | 2" | 2" | 3/8" | 145 | 345 | 19 | 6,51 | 0,8 |
| 3 | 73,5 | 720 | 380 | 278 | 2" | 2" | 3/8" | 145 | 345 | 19 | 9,8 | 0,9 |
| 4 | 98 | 750 | 430 | 316 | 2" | 2" | 3/8" | 190 | 395 | 22 | 13,2 | 1 |
| 5 | 122,5 | 780 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 16,68 | 1,1 |
| 6 | 147 | 895 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 19,2 | 1,2 |
| 8 | 196 | 1250 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 27 | 1,3 |
| 10 | 245 | 1510 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 32,7 | 1,4 |

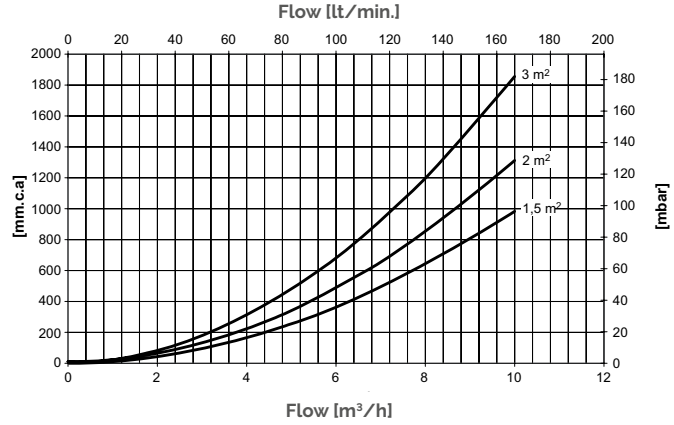
## Pressure loss tube heat exchanger

### Exchanger surface 0,5 - 1 m²

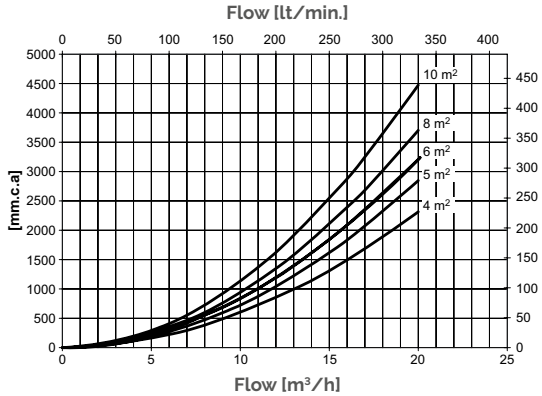



### Exchanger surface 1,5 - 3 m²




### Exchanger surface 5 - 10 m²



# Custom water heaters with 1 or 2 inspection holes and tube heat exchanger

The Boil custom range has been designed to give the user the possibility of composing the system for the production of domestic hot water that best suits the project requirements. The selection concerns the type of accumulation, volume and power of the desired exchanger. This makes it possible to create flexible solutions in terms of storage type, volume and power of the exchanger.

### BOIL CUSTOM 1 INSPECTION HOLE

This solution makes it possible to couple the domestic hot water storage with a tube bundle or copper spiral exchanger.

### BOIL CUSTOM 2 INSPECTION HOLES

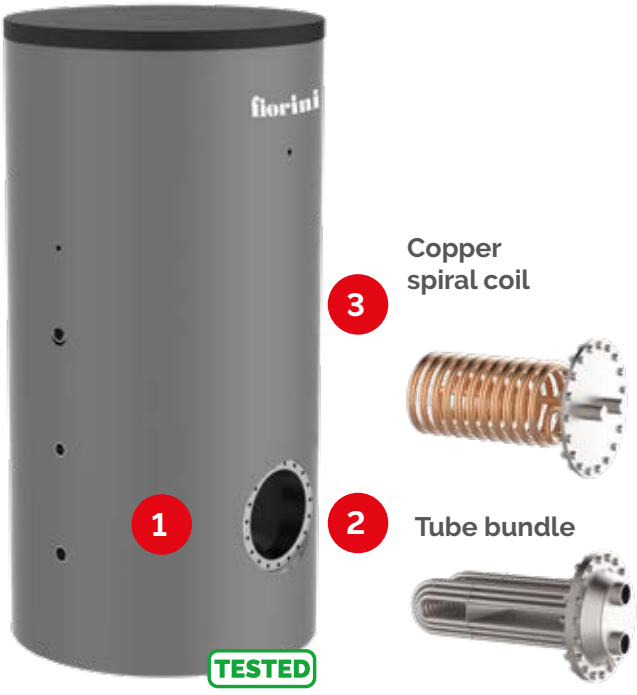
This solution makes it possible to couple each of the two hatches of the sanitary water storage. with a tube bundle or copper spiral heat exchanger. It is also possible to install just one exchanger, allocating the remaining hatch to the inspection function: in this case it is necessary to provide a blank closing plate.

### ❖ HOW TO CONFIGURE BOIL CUSTOM WITH 1 INSPECTION HOLE

1. Select a FLEXY or FLEXY INOX storage tank with 1 hole from the following page
2. Select the suitable exchanger model based on compatibility with the storage tank and the thermal power to be exchanged:
   - Tube bundle (See page 204)
   - Coiled copper coil (See page 206)

### ❖ HOW TO CONFIGURE BOIL CUSTOM WITH 2 INSPECTION HOLES

1. Select a FLEXY or FLEXY INOX tank with 2 hatches from the following page
2. For each hatch, select the suitable exchanger model based on compatibility with the storage tank and the thermal power to be exchanged:
   - Tube bundle (See page 204)
   - Coiled copper coil (See page 206)
3. Optionally select the blanking plate from the following page





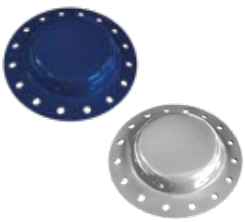

# Custom water heaters with 1 or 2 inspection holes and tube heat exchanger




| | ENAMELLED FLEXY 1 INSPECTION HOLE (PAG 156) | | | | ST. STEEL FLEXY 1 INSPECTION HOLE (PAG 164) | | | |
|---|---|---|---|---|---|---|---|---|
| Cap. l | Code | Price | Energy label | Inspection hole Øext mm | Code | Price | Energy label | Inspection hole Øext mm |
| 200 | 817060032X | | B | Ø300 | 817040188X | | B | Ø300 |
| 300 | 817060033X | | B | Ø300 | 817040189X | | B | Ø300 |
| 500 | 817060034X | | C | Ø300 | 817040190X | | C | Ø300 |
| 750 | 817060035X | | C | Ø380 | 817040191X | | C | Ø380 |
| 1000 | 817060036X | | C | Ø380 | 817040192X | | C | Ø380 |
| 1500 | 817080112X | | C | Ø380 | 817040193X | | C | Ø380 |
| 2000 | 817080099X | | C | Ø430 | 817040194X | | C | Ø430 |
| 2500 | 817080100X | | | Ø430 | 817040195X | | | Ø430 |
| 3000 | 817080101X | | | Ø430 | 817040196X | | | Ø430 |
| 4000 | 817080102X | | | Ø430 | 817040197X | | | Ø430 |
| 5000 | 817080103X | | | Ø430 | 817040198X | | | Ø430 |




| | ENAMELLED FLEXY 2 INSPECTION HOLES (PAG 164) | | | | ST. STEEL FLEXY 2 INSPECTION HOLES (PAG 166) | | | |
|---|---|---|---|---|---|---|---|---|
| Cap. l | Code | Price | Energy label | Inspection hole Øext mm | Code | Price | Energy label | Inspection hole Øext mm |
| 200 | 817080134X | | B | Ø300 | 817040199X | | B | Ø300 |
| 300 | 817080135X | | B | Ø300 | 817040200X | | B | Ø300 |
| 500 | 817080136X | | C | Ø300 | 817040201X | | C | Ø300 |
| 750 | 817080191X | | C | Ø380 | 817040202X | | C | Ø380 |
| 1000 | 817080138X | | C | Ø380 | 817040203X | | C | Ø380 |
| 1500 | 817080139X | | C | Ø380 | 817040204X | | C | Ø380 |
| 2000 | 817080140X | | C | Ø430 | 817040205X | | C | Ø430 |
| 2500 | 817080141X | | | Ø430 | 817040206X | | | Ø430 |
| 3000 | 817080142X | | | Ø430 | 817040207X | | | Ø430 |
| 4000 | 817080143X | | | Ø430 | 817040208X | | | Ø430 |
| 5000 | 817080144X | | | Ø430 | 817040209X | | | Ø430 |

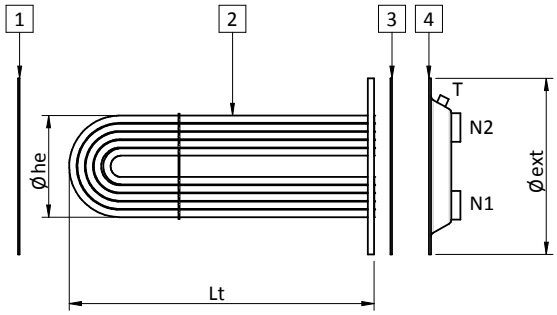


| | | Enamelled heads | | Stainless steel heads | |
|---|---|---|---|---|---|
| Diametre mm | Tank capacity | Code | Price | Code | Price |
| Ø300 | from 200 to 500 l | 843030018X | | 843040019X | |
| Ø380 | from 750 to 1500 l | 843030019X | | 843040020X | |
| Ø430 | from 2000 to5000 l | 843030020X | | 843040021X | |

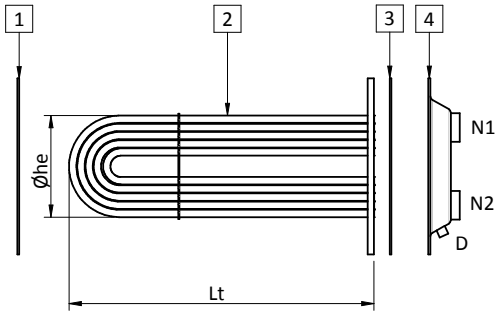
The heads are supplied complete with bolts and gasket.

# Bundle tube heat exchanger

## Water only

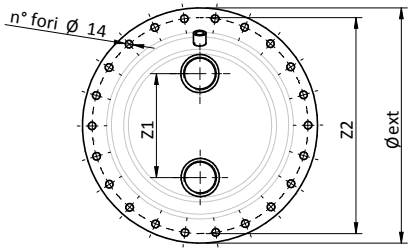


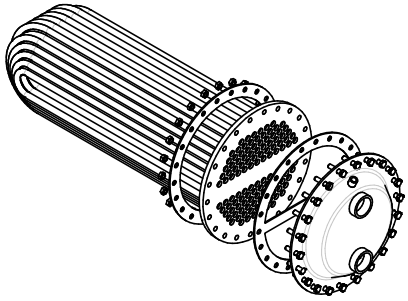

## Steam only




## Couplings legend

| | |
|---|---|
| **D** | Drain |
| **N1** | Exchanger inlet/outlet |
| **N2** | Exchanger inlet/outlet |
| **T** | Vent |
| **1** | Gasket without cross-beam |
| **2** | Bundle tube heat exchangers |
| **3** | Gasket with cross-beam |
| **4** | Head |



## Technical information tube heat exchanger

| Surf. m² | Power* kW | Lt mm | Øext mm | Øhe mm | N1 inch | N2 inch | T, D inch | Z1 mm | Z2 mm | n° holes | Vol. l | dp mca |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,5 | 12,2 | 460 | 300 | 166 | 1" | 1" | 3/8" | 120 | 262 | 16 | 1,84 | 0,65 |
| 0,75 | 18,4 | 445 | 300 | 202 | 1" | 1" | 3/8" | 120 | 262 | 16 | 2,44 | 0,65 |
| 1 | 24,5 | 475 | 300 | 202 | 1" | 1" | 3/8" | 120 | 262 | 16 | 3,23 | 0,7 |
| 1,5 | 36,7 | 600 | 380 | 270 | 2" | 2" | 3/8" | 145 | 345 | 19 | 5,36 | 0,75 |
| 2 | 49 | 600 | 380 | 270 | 2" | 2" | 3/8" | 145 | 345 | 19 | 6,51 | 0,8 |
| 3 | 73,5 | 720 | 380 | 278 | 2" | 2" | 3/8" | 145 | 345 | 19 | 9,8 | 0,9 |
| 4 | 98 | 750 | 430 | 316 | 2" | 2" | 3/8" | 190 | 395 | 22 | 13,2 | 1 |
| 5 | 122,5 | 780 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 16,68 | 1,1 |
| 6 | 147 | 895 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 19,2 | 1,2 |
| 8 | 196 | 1250 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 27 | 1,3 |
| 10 | 245 | 1510 | 430 | 324 | 2" | 2" | 3/8" | 190 | 395 | 22 | 32,7 | 1,4 |

Performance calculated with primary 80°C and domestic water 10-45°C

## Compatibility between (1) the tube heat exchanger and (4) the storage tank

| | Surface m² | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cap. l | 0,5 | 0,75 | 1 | 1,5 | 2 | 3 | 4 | 5 | 6 | 8 | 10 |
| 200 | ✔ | ✔ | ✔ | | | | | | | | |
| 300 | ✔ | ✔ | ✔ | | | | | | | | |
| 500 | ✔ | ✔ | ✔ | | | | | | | | |
| 800 | | | | ✔ | ✔ | ✔ | | | | | |
| 1000 | | | | ✔ | ✔ | ✔ | | | | | |
| 1500 | | | | ✔ | ✔ | ✔ | | | | | |
| 2000 | | | | | | | ✔ | ✔ | ✔ | | |
| 2500 | | | | | | | ✔ | ✔ | ✔ | | |
| 3000 | | | | | | | ✔ | ✔ | ✔ | ✔ | |
| 4000 | | | | | | | ✔ | ✔ | ✔ | ✔ | |
| 5000 | | | | | | | ✔ | ✔ | ✔ | ✔ | ✔ |

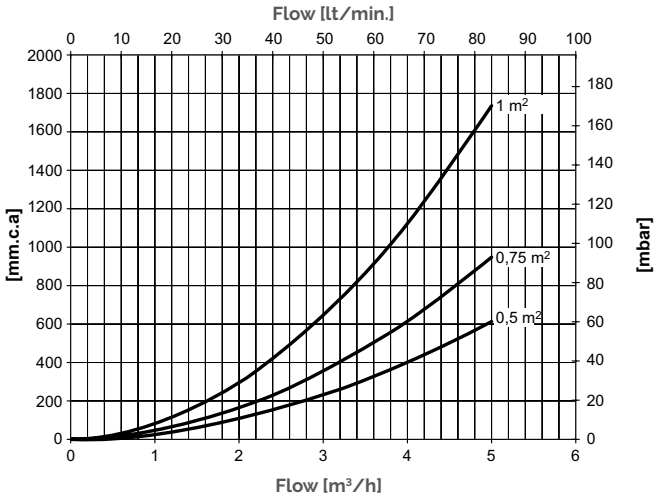
✔ Combination is possible

| | Version 1 Stainless steel AISI 304 | | Version 2 Stainless steel AISI 316 | | Version with steam P ≤ 6 bar | | | Version with steam P ≤ 12 bar | | |
|---|---|---|---|---|---|---|---|---|---|---|
| surf. m² | Code | Price | Code | Price | Code | Price | cat. P.E.D. | Code | Price | cat. P.E.D. |
| 0,5 | 821030379X | | 821030393X | | 821030285X | | Art.4 par.3 | 821030405X | | Cat. I |
| 0,75 | 821030380X | | 821030394X | | 821030286X | | Art.4 par.3 | 821030406X | | Cat. I |
| 1 | 821030381X | | 821030395X | | 821030287X | | Art.4 par.3 | 821030407X | | Cat. I |
| 1,5 | 821030382X | | 821030396X | | 821030288X | | Cat. I | 821030408X | | Cat. I |
| 2 | 821030383X | | 821030397X | | 821030289X | | Cat. I | 821030409X | | Cat. I |
| 3 | 821030385X | | 821030399X | | 821030291X | | Cat. I | 821030411X | | Cat. I |
| 4 | 821030386X | | 821030400X | | 821030292X | | Cat. I | 821030412X | | Cat. II |
| 5 | 821030387X | | 821030401X | | 821030293X | | Cat. I | 821030413X | | Cat. II |
| 6 | 821030388X | | 821030402X | | 821030294X | | Cat. I | 821030414X | | Cat. II |
| 8 | 821030389X | | 821030403X | | 821030296X | | Cat. I | 821030416X | | Cat. II |
| 10 | 821030390X | | 821030404X | | 821030418X | | Cat. II | 821030418X | | Cat. II |

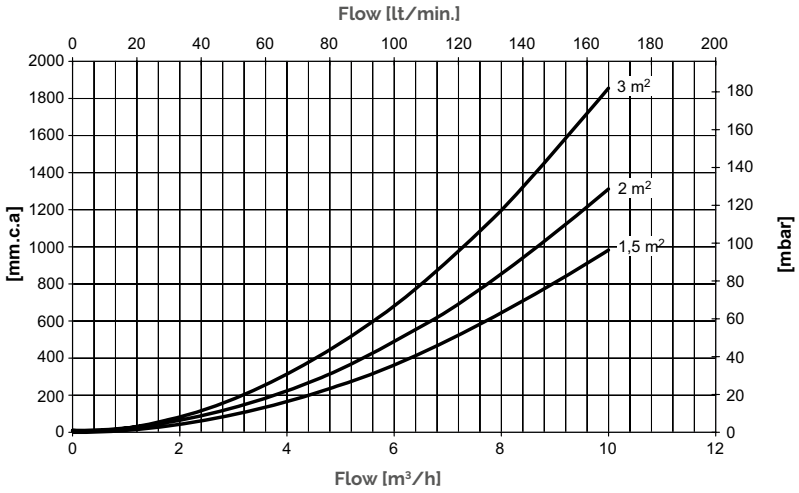
Version 1: AISI 304 stainless steel tube heat exchanger, assembled on a varnished plate with galvanised head
Version 2 and version with steam: AISI 306 stainless steel tube heat exchanger on a AISI 316 steel plate and AISI 304 steel head

# Bundle tube heat exchanger
# Curve: pressure loss

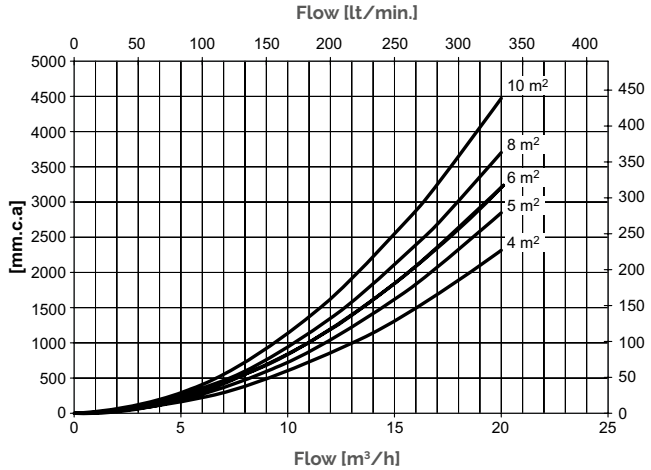
## Exchanger surface 0,5 - 1 m²



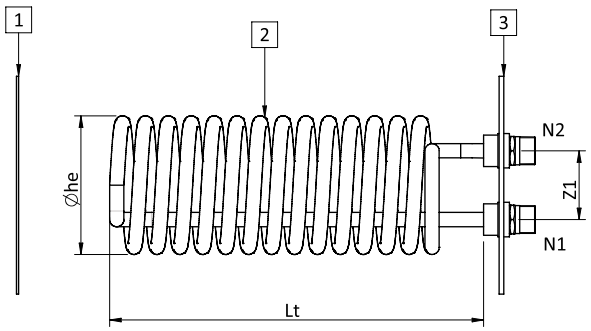

## Exchanger surface 1,5 - 3 m²

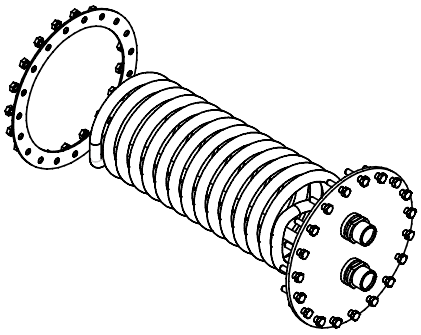



## Exchanger surface 4 - 10 m²



# Copper spiral coil



## Compatibility chart for copper spiral coil and storage tank

| Capacity l | Surface m² | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0,82 | 1,38 | 1,53 | 2,27 | 3,1 | 4,54 | 5,26 | 6,34 |
| 200 | ✔ | ✔ | ✔ | | | | | |
| 300 | ✔ | ✔ | ✔ | | | | | |
| 500 | ✔ | ✔ | ✔ | ✔ | ✔ | | | |
| 800 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 1000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 1500 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 2000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 2500 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 3000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 4000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| 5000 | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |

✔ Combination is possible

### Couplings legend

| | |
|---|---|
| **N1** | Ingresso/uscita scambiatore |
| **N2** | Ingresso/uscita scambiatore |
| **1** | Guarnizione S/T (senza traverso) |
| **2** | Serpentino rame alettato |
| **3** | Piastra di montaggio |

## Technical information copper spiral coil

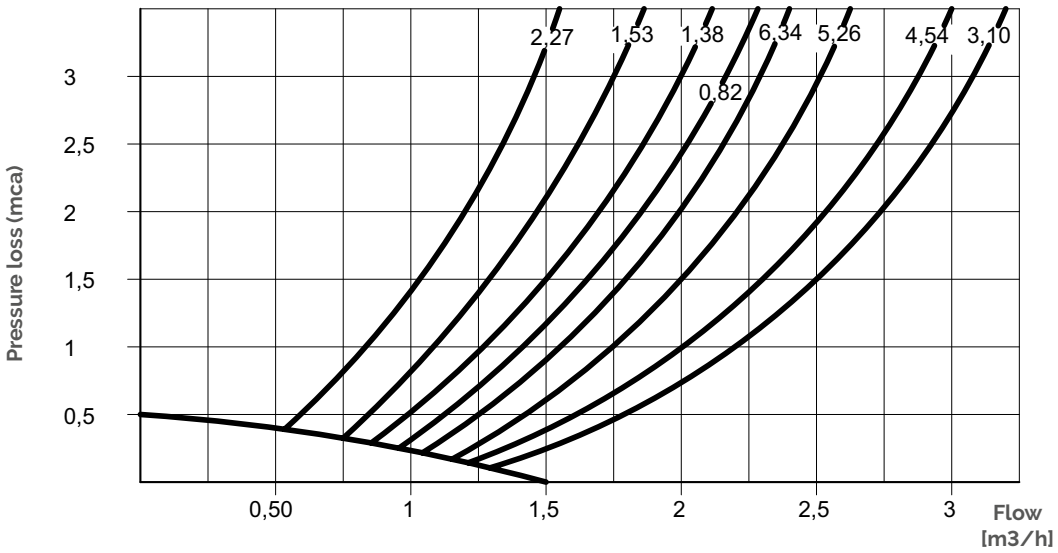
| Surf. m² | Lt mm | Øhe mm | Z1 mm | N1 inch | N2 inch | Type of coil | Internal volume l | Dp kPa | Thermal eff. (*) kW | T max °C | P max bar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,82 | 380 | 160 | 75 | 3/4" | 3/4" | Single coil | 0,7 | 25 | 15 | 99 | 9 |
| 1,38 | 420 | 170 | 75 | 3/4" | 3/4" | Single coil | 1,2 | 30 | 21,6 | 99 | 9 |
| 1,53 | 450 | 170 | 75 | 3/4" | 3/4" | Single coil | 1,4 | 35 | 24 | 99 | 9 |
| 2,27 | 570 | 170 | 75 | 3/4" | 3/4" | Single coil | 2 | 35 | 27 | 99 | 9 |
| 3,1 | 550 | 180 | 90 | 1"1/4 | 1"1/4 | Double coil | 2,7 | 26 | 35 | 99 | 9 |
| 4,54 | 570 | 242 | 120 | 1"1/4 | 1"1/4 | Double coil | 3,9 | 35 | 55 | 99 | 9 |
| 5,26 | 660 | 242 | 120 | 1"1/4 | 1"1/4 | Double coil | 4,5 | 35 | 57,5 | 99 | 9 |
| 6,34 | 780 | 242 | 120 | 1"1/4 | 1"1/4 | Double coil | 5,5 | 35 | 61,5 | 99 | 9 |

*Performance calculated with the following temperatures: primary 80°C and domestic water 10-45°C

| Surface area m² | Assembled on a plate Ø300 | | Assembled on a plate Ø380 | | Assembled on a plate Ø430 | |
|---|---|---|---|---|---|---|
| | Code | Price | Code | Price | Code | Price |
| 0,82 | 821040017 | | 821040254X | | 821040259X | |
| 1,38 | 821040019 | | 821040255X | | 821040260X | |
| 1,53 | 821040020 | | 821040256X | | 821040261X | |
| 2,27 | 821040252X | | 821040021 | | 821040262X | |
| 3,1 | 821040253X | | 821040022 | | 821040263X | |
| 4,54 | - | | 821040023 | | 821040027 | |
| 5,26 | - | | 821040257X | | 821040024 | |
| 6,34 | - | | 821040258X | | 821040025 | |

The copper coils are supplied with plates, bolts, nuts and gaskets

# Copper spiral coil
# Curve: pressure loss



# Electric water heater
# FLEXY VOLT

The new FLEXY VOLT series of electric water heaters is designed to ensure versatility of use and quick water heating. These devices are equipped with one (FLEXY VOLT 1) or two (FLEXY VOLT 2) electric heating elements with appropriate power ratings and two externally adjustable thermostats.
The magnesium anode is easily accessible and provides additional cathodic protection against corrosion.




TESTED

**Capacity:** from 200 to 1000 l
**Power:** from 2 to 20 kW
**Material:** S 235 JR carbon steel
**Treatment for internal protection:** glass lining
**Insulation**

| Capacity (l) | Type |
|---|---|
| from 200 to 1000 | Highly rigid polyurethane foam |

### Operational limits

| max. temperature | max. pressure |
|---|---|
| 95°C | 10 bar |



**Supplied accessories:** Sacrificial Magnesium Anode and Thermometer.

**Standard accessories:** see page 294

**Special executions:** see page 296

| Cap. l | Voltage V | FLEXY VOLT 1 | | | | | FLEXY VOLT 2 | | | | | Packaging | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Code | Price | Power kW | Heating time Δt=35°C | Heating time Δt=25°C | Code | Price | Power kW | Heating time Δt=35°C | Heating time Δt=25°C | Dimensions cm | Weight kg |
| 200 | 220 | 855050044X | | 2 | 4h-05' | 2h-50' | 855050052X | | 2x2 | 2h-03' | 1 h-45' | 75x75x125 | 74 |
| 300 | 220 | 855050045X | | 3 | 4h-05' | 2h-50' | 855050053X | | 2x3 | 2h-03' | 1 h-45' | 75x75x150 | 84 |
| 300 | 380 | 855050051X | | 3 | 4h-05' | 2h-50' | 855050057X | | 2x3 | 2h-03' | 1 h-45' | 75x75x150 | 84 |
| 500 | 380 | 855050046X | | 5 | 4h-05' | 2h-50' | 855050054X | | 2x5 | 2h-03' | 1 h-45' | 85x85x175 | 122 |
| 750 | 380 | 855050047X | | 8 | 3h-40' | 2h-40' | 855050055X | | 2x8 | 1 h-50' | 1 h-20' | 100x100x185 | 199 |
| 1000 | 380 | 855050048X | | 10 | 4h-05' | 2h-50' | 855050056X | | 2x10 | 2h-03' | 1 h-30' | 105x105x210 | 243 |

Primary temperature: 80-60°C - Secondary temperature: 10-45°C
Primary temperature: 55-50°C - Secondary temperature: 10-45°C

### Integration of rapid DHW (Domestic Hot Water) generator

AQUAFAST consists of a compact and high-efficiency heat exchange unit for the rapid production of domestic hot water, which can be paired with any Fiorini thermal storage tank from the Flexy series or any water heater from the Boil or Smart series.
The ability to combine Aquafast with different types of tanks and volumes allows for a wide range of solutions for the rapid production of domestic hot water. The rapid generator is ideal for small and large communities (homes, restaurants, hotels, sports centers, etc.).

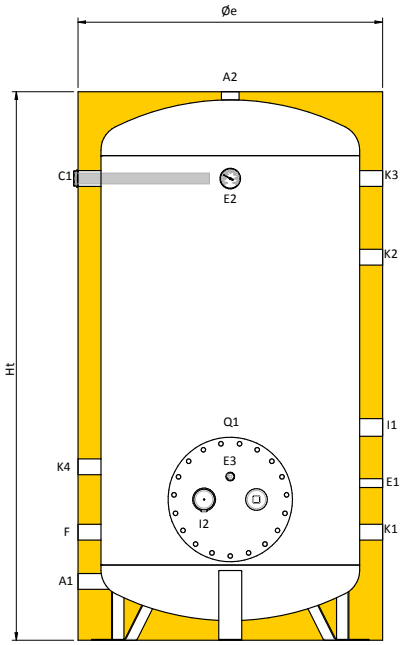


**Integration with AQUAFAST**

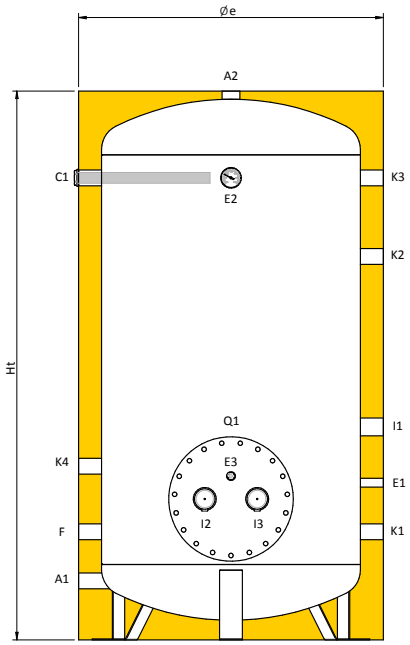
See page 212

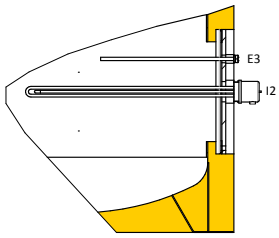
# Electric water heater
# FLEXY VOLT

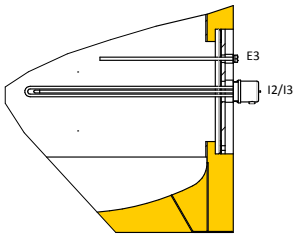
FLEXY VOLT 1




FLEXY VOLT 2




### Couplings legend

| | |
|---|---|
| **A1** | DHW inlet |
| **A2** | DHW outlet |
| **C1** | Anode |
| **D** | Drain |
| **E1** | Probe/Thermometer |
| **E2** | Probe/Thermometer |
| **E3** | Probe/Thermometer |
| **F** | Recirculation |
| **I1** | Electrical resistor |
| **I2** | Electrical resistor |
| **K1** | Auxiliary |
| **K2** | Auxiliary |
| **K3** | Auxiliary |
| **K4** | Auxiliary |
| **Q1** | Inspection hole |

### Couplings chart

| Cap. l | A1 inches | A2 inches | C1 inches | E1 inches | E2 inches | E3 inches | F inches | I1 inches | I2-I3 inches | K1 inches | K2 inches | K3 inches | K4 inches | Q1 (Øext/Øint) inches |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø200 |
| 300 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø200 |
| 500 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 2" | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø300/Ø200 |
| 750 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 2" | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø380/Ø300 |
| 1000 | 1"1/4 | 1"1/4 | 1"1/4 | 1/2" | 1/2" | 1/2" | 1"1/4 | 1"1/2 | 2" | 1"1/4 | 1"1/4 | 1"1/4 | 1"1/4 | Ø380/Ø300 |

### Size chart

| Cap. l | Øe mm | Ht mm | R mm | A1 mm | C1 mm | E1 mm | E2 mm | F mm | I1 mm | K1 mm | K2 mm | K3 mm | K4 mm | Q1 mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 710 | 1105 | 1315 | 150 | 885 | 295 | 885 | 295 | 445 | 150 | 595 | 990 | 495 | 345 |
| 300 | 710 | 1355 | 1530 | 150 | 1135 | 445 | 1135 | 295 | 595 | 295 | 795 | 1135 | 495 | 355 |
| 500 | 810 | 1635 | 1825 | 145 | 1390 | 460 | 1390 | 310 | 610 | 310 | 1150 | 1390 | 510 | 370 |
| 750 | 950 | 1675 | 1925 | 180 | 1410 | 480 | 1410 | 330 | 650 | 330 | 1170 | 1410 | 530 | 430 |
| 1000 | 1010 | 1965 | 2210 | 200 | 1680 | 500 | 1680 | 350 | 670 | 350 | 1190 | 1680 | 550 | 450 |



## Download additional content

go.fiorinigroup.it/eng/content

fiorini

Fiorini Industries S.r.l.
Ph. +39 0543 723197 – Fax +39 0543 720413
Via Zampeschi 119 – 47122 Forlì (FC) – Italy
**www.fiorini-industries.com**