

# ELLPREX

(The models with an output smaller than 400 kW can be sold only outside de UE - agg. 01/2019)



BREVETTO  
**Unical**  
PATENT

smoke pipes

## PRESSURIZED STEEL BOILER WITH REVERSED FLAME

OUTPUT RANGE

from 340 to 7000 kW

WORKING TEMPERATURE

minimum return temperature 55°C

OPERATION WITH

gas or oil fired pressure jet burners

MODELS

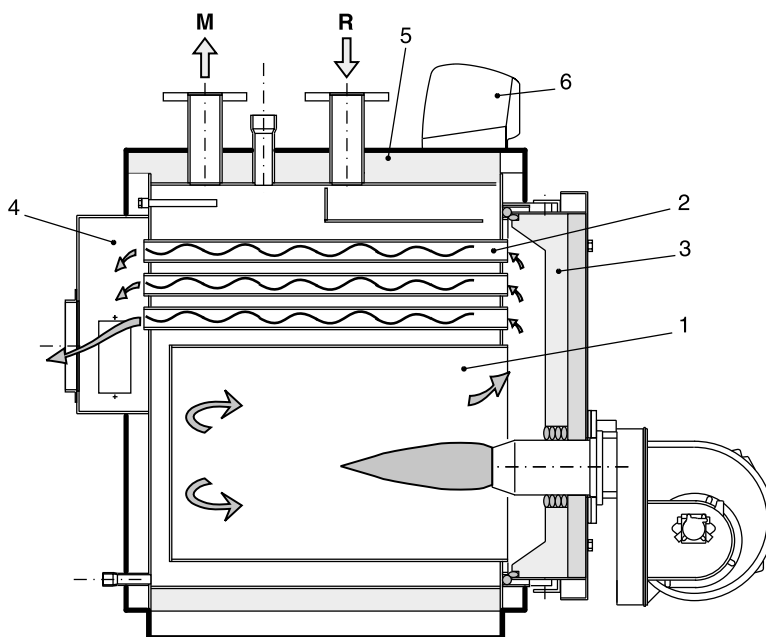
|      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|
| 340  | 420  | 510  | 630  | 760  | 870  | 970  | 1100 | 1320 | 1570 | 1850 |
| 2200 | 2650 | 3000 | 3500 | 4000 | 4500 | 5000 | 5500 | 6000 | 6500 | 7000 |

CERTIFICATION IN OUTPUT RANGE

(in the order, it's possible to request a specific output within the certified range)

## MAIN COMPONENTS

1. Furnace
2. Smoke pipes with smoke diverters
3. Door with flame control warning light
4. Smoke chamber
5. Body insulation
6. Panel board



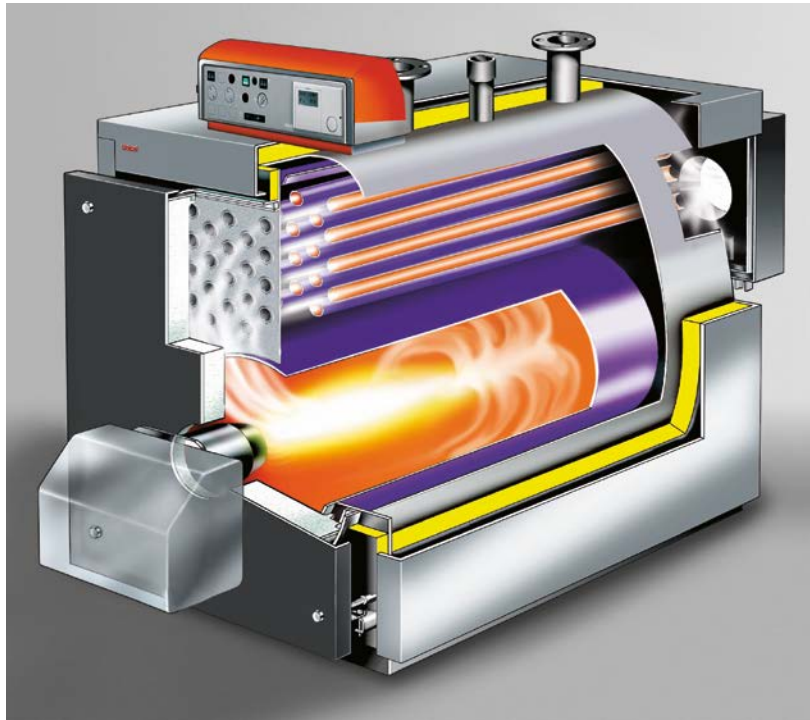
## TECHNICAL DATA

| Model               | Heat output | Heat input    | Boiler capacity | Water side     | Flue gas       | Max. boiler operating pressure | Combustion chamber | Weight |
|---------------------|-------------|---------------|-----------------|----------------|----------------|--------------------------------|--------------------|--------|
|                     | min/max     | min/max       |                 | pressure drops | pressure drops |                                |                    |        |
|                     | kW          | kW            | l               | m w.c.         | mm w.c.        | bar                            | m <sup>3</sup>     | kg     |
| <b>ELLPREX 340</b>  | 255÷340     | 277÷371       | 298             | 0.16÷0.28      | 17÷34          | 6                              | 0.226              | 629    |
| <b>ELLPREX 420</b>  | 315÷420     | 342÷459       | 398             | 0.09÷0.17      | 16÷29          | 6                              | 0.288              | 849    |
| <b>ELLPREX 510</b>  | 385÷510     | 418÷557       | 462             | 0.14÷0.25      | 24÷43          | 6                              | 0.337              | 972    |
| <b>ELLPREX 630</b>  | 480÷630     | 520÷688       | 565             | 0.21÷0.38      | 32÷55          | 6                              | 0.416              | 1102   |
| <b>ELLPREX 760</b>  | 580÷760     | 630÷830       | 671             | 0.15÷0.26      | 29÷51          | 6                              | 0.513              | 1372   |
| <b>ELLPREX 870</b>  | 660÷870     | 715÷950       | 753             | 0.19÷0.33      | 33÷57          | 6                              | 0.584              | 1482   |
| <b>ELLPREX 970</b>  | 750÷970     | 815÷1060      | 836             | 0.24÷0.41      | 29÷49          | 6                              | 0.656              | 1588   |
| <b>ELLPREX 1100</b> | 860÷1100    | 935÷1200      | 1040            | 0.18÷0.30      | 32÷52          | 6                              | 0.748              | 1821   |
| <b>ELLPREX 1320</b> | 1000÷1320   | 1087÷1442     | 1242            | 0.20÷0.35      | 38÷67          | 6                              | 0.869              | 2030   |
| <b>ELLPREX 1570</b> | 1200÷1570   | 1304÷1715     | 1418            | 0.19÷0.33      | 35÷60          | 6                              | 1.087              | 2780   |
| <b>ELLPREX 1850</b> | 1400÷1850   | 1520÷2020     | 1617            | 0.26÷0.45      | 42÷73          | 6                              | 1.303              | 3280   |
| <b>ELLPREX 2200</b> | 1700÷2200   | 1845÷2400     | 2086            | 0.21÷0.34      | 39÷65          | 6                              | 1.650              | 4145   |
| <b>ELLPREX 2650</b> | 2000÷2650   | 2170÷2890     | 2324            | 0.28÷0.48      | 43÷76          | 6                              | 1.866              | 4465   |
| <b>ELLPREX 3000</b> | 2300÷3000   | 2492÷3280     | 2667            | 0.36÷0.62      | 35÷60          | 6                              | 2.313              | 5110   |
| <b>ELLPREX 3500</b> | 2700÷3500   | 2930÷3825     | 4142            | 0.54÷0.84      | 47÷74          | 6                              | 2.601              | 6700   |
| <b>ELLPREX 4000</b> | 3200÷4000   | 3478÷4371     | 4455            | 0.54÷0.85      | 60÷80          | 6                              | 3.126              | 7500   |
| <b>ELLPREX 4500</b> | 3420÷4500   | 3638.3÷4838.7 | 6012            | 0.70÷0.85      | 51÷88          | 6                              | 4.151              | 7750   |
| <b>ELLPREX 5000</b> | 3800÷5000   | 4064.2÷5421.8 | 6012            | 0.80÷1.05      | 65÷110         | 6                              | 4.151              | 7750   |
| <b>ELLPREX 5500</b> | 4180÷5500   | 4446.8÷5914   | 7058            | 0.95÷1.15      | 60÷100         | 6                              | 4.838              | 9300   |
| <b>ELLPREX 6000</b> | 4870÷6000   | 4877÷6506.2   | 7058            | 1.00÷1.35      | 68÷120         | 6                              | 4.838              | 9300   |
| <b>ELLPREX 6500</b> | 4940÷6500   | 5255.3÷6989.2 | 7909            | 1.05÷1.50      | 61÷105         | 6                              | 6.832              | 12600  |
| <b>ELLPREX 7000</b> | 5320÷7000   | 5689.8÷7590.5 | 7909            | 1.10÷1.75      | 69÷120         | 6                              | 6.832              | 12600  |

Pressure drops corresponding to a thermal variation of 15K.

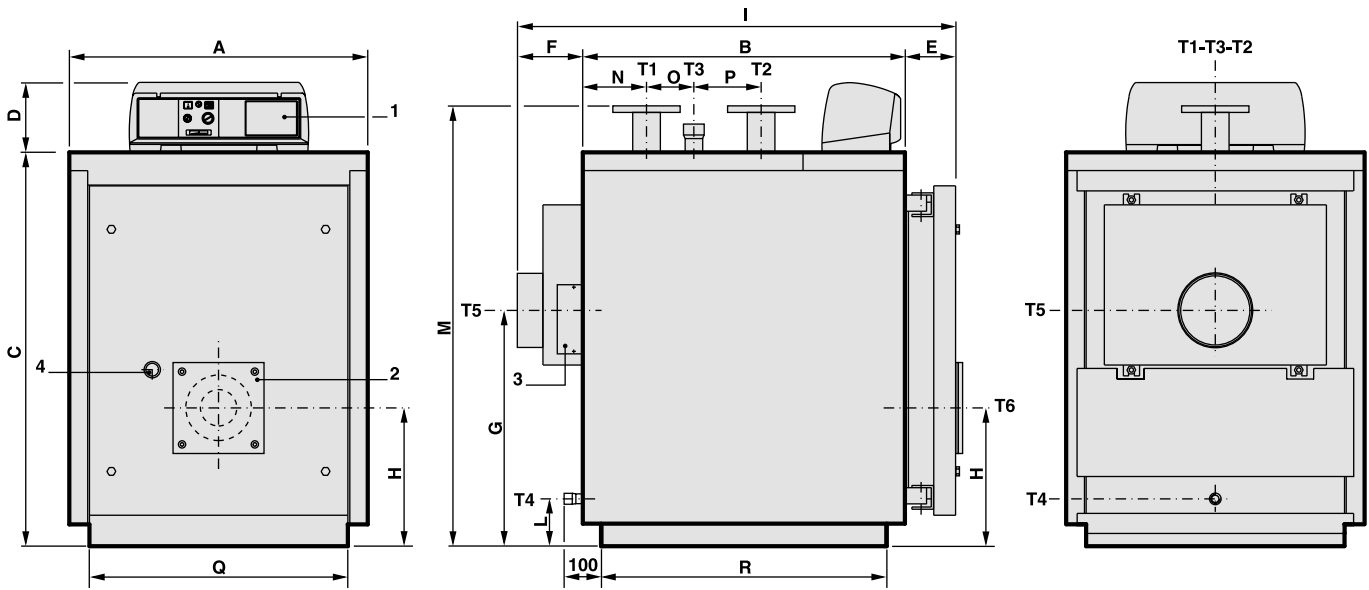
On special order the boilers from model ELLPREX 1100 to ELLPREX 7000 can be manufactured for a max. working pressure up to 10 bar.

## PRODUCT PLUS VALUES



- **FLEXIBILITY OF USE**
- **THERMAL EXCHANGE OPTIMISATION**  
by driven water passage into the boiler
- **THE ELLIPTIC SHELL SHAPE (up to 970 kW)**  
**has interesting advantages:**
  - smaller dimensions (for easier transport and positioning)
  - smoke pipes positioning above the furnace with drastic reduction of the possible condensation
- **SMOKE PIPES OF HIGH THICKNESS**  
with anti-condensing effect
- **TURBOLATORS**  
for the thermal exchange optimisation into the smoke pipes
- **CYLINDRICAL FLOATING FURNACE**  
anti thermo-mechanic stress from 760 kW
- **BOTTOM OF THE FURNACE WITH DISSIPATION PLATES**  
for greater performance and greater mechanical resistance
- **FRONT DOOR**  
with self centering locking
- **INTERNAL DOOR INSULATION**  
in light refractory concrete
- **EXTERNAL CASING**  
inclusive of 80 mm rock wool insulation
- **THERMOSTATIC OR ELECTRONIC CONTROL PANELS**
- **FACILITATED TRANSPORT**  
thanks to the upper hooks and strong base plates

DIMENSIONS ELLPREX 340÷970



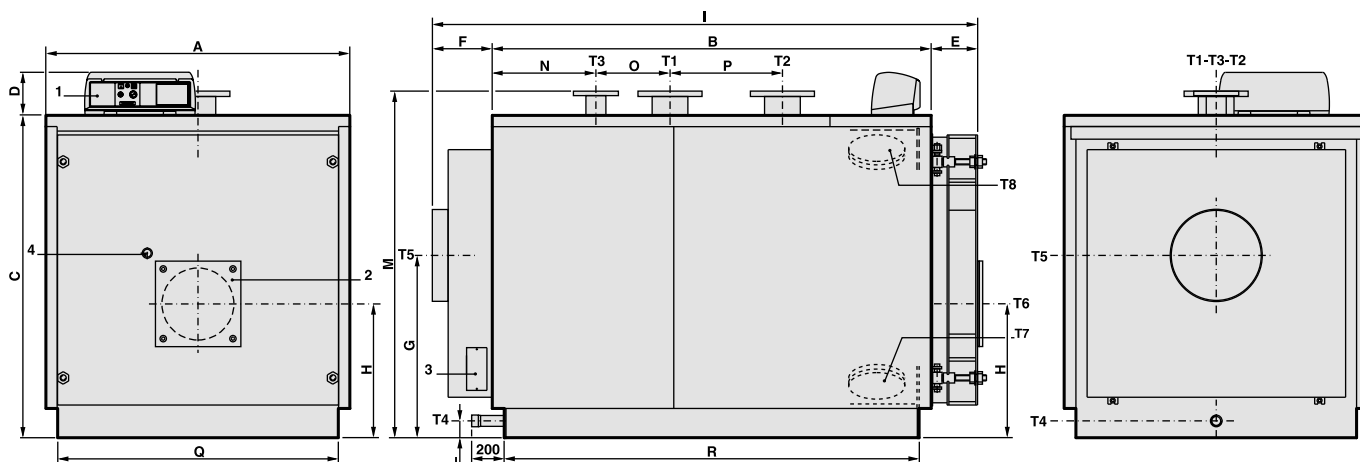
- 1 Panel board
- 2 Burner connection flange
- 3 Smoke chamber cleaning door
- 4 Flame control warning light
- T1 Heating flow
- T2 Heating return
- T3 Expansion vessel connection
- T4 Boiler drain
- T5 Chimney connection
- T6 Burner connection

| ELLPREX | Nominal output<br>kW | Nominal input<br>kW | Boiler capacity<br>l | Water pressure drops(**)<br>m w.c. | Flue gas pressure drop<br>mm w.c. | Maximum boiler working pressure<br>bar | Weight<br>kg | CONNECTIONS  |               |               |          |         |
|---------|----------------------|---------------------|----------------------|------------------------------------|-----------------------------------|--|--------------|--------------|---------------|---------------|----------|---------|
|         |                      |                     |                      |                                    |                                   |  |              | T1<br>T2     | T3<br>ISO 7/1 | T4<br>ISO 7/1 | T5<br>Øi | T6<br>Ø |
|         |                      |                     |                      |                                    |                                   |  |              | UNI2278 PN16 | UNI2278 PN16  | ISO 7/1       | mm       | mm      |
| 340     | 255÷340              | 277÷371             | 298                  | 0.16÷0.28                          | 17÷34                             | 6                                      | 629          | DN 80        | Rp 2          | Rp ¾          | 250      | 220     |
| 420     | 315÷420              | 342÷459             | 398                  | 0.09÷0.17                          | 16÷29                             | 6                                      | 796          | DN 100       | Rp 2          | Rp ¾          | 250      | 220     |
| 510     | 385÷510              | 418÷557             | 462                  | 0.14÷0.25                          | 24÷43                             | 6                                      | 919          | DN 100       | Rp 2          | Rp ¾          | 250      | 220     |
| 630     | 480÷630              | 520÷688             | 565                  | 0.21÷0.38                          | 32÷55                             | 6                                      | 1049         | DN 100       | Rp 2          | Rp ¾          | 300      | 220     |
| 760     | 580÷760              | 630÷830             | 671                  | 0.15÷0.26                          | 29÷51                             | 6                                      | 1341         | DN 125       | DN 65         | Rp 1¼         | 350      | 270     |
| 870     | 660÷870              | 715÷950             | 753                  | 0.19÷0.33                          | 33÷57                             | 6                                      | 1447         | DN 125       | DN 65         | Rp 1¼         | 350      | 270     |
| 970     | 750÷970              | 815÷1060            | 836                  | 0.24÷0.41                          | 29÷49                             | 6                                      | 1553         | DN 125       | DN 65         | Rp 1¼         | 350      | 270     |

| ELLPREX | A    | B    | C    | D   | E   | F   | G   | H   | I    | L   | M*   | N   | O   | P   | Q*   | R*   |
|---------|------|------|------|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|------|------|
|         | mm   | mm   | mm   | mm  | mm  | mm  | mm  | mm  | mm   | mm  | mm   | mm  | mm  | mm  | mm   | mm   |
| 340     | 860  | 1210 | 1182 | 190 | 139 | 190 | 708 | 400 | 1541 | 130 | 1310 | 215 | 340 | 250 | 750  | 1112 |
| 420     | 890  | 1275 | 1352 | 190 | 139 | 190 | 748 | 440 | 1606 | 125 | 1485 | 255 | 285 | 315 | 780  | 1177 |
| 510     | 890  | 1470 | 1352 | 190 | 139 | 190 | 748 | 440 | 1801 | 125 | 1485 | 255 | 480 | 315 | 780  | 1372 |
| 630     | 890  | 1780 | 1352 | 190 | 139 | 190 | 748 | 440 | 2113 | 125 | 1485 | 255 | 790 | 315 | 780  | 1682 |
| 760     | 1122 | 1605 | 1432 | 190 | 195 | 190 | 765 | 480 | 1989 | 125 | 1540 | 298 | 435 | 440 | 1020 | 1504 |
| 870     | 1122 | 1800 | 1432 | 190 | 195 | 190 | 765 | 480 | 2184 | 125 | 1540 | 298 | 630 | 440 | 1020 | 1699 |
| 970     | 1122 | 1995 | 1432 | 190 | 195 | 190 | 765 | 480 | 2379 | 125 | 1540 | 298 | 825 | 440 | 1020 | 1894 |

(\*) Minimum dimensions for boiler room access.  
 (\*\*) Pressure drops corresponding to a thermal variation of 15K.

## DIMENSIONS ELLPREX 1100÷2650



- |                                      |                                       |                              |
|--------------------------------------|---------------------------------------|------------------------------|
| <b>1</b> Panel board                 | <b>T1</b> Heating flow                | <b>T5</b> Chimney connection |
| <b>2</b> Burner connection flange    | <b>T2</b> Heating return              | <b>T6</b> Burner connection  |
| <b>3</b> Smoke chamber cleaning door | <b>T3</b> Expansion vessel connection | <b>T7</b> Boiler air bleed   |
| <b>4</b> Flame control warning light | <b>T4</b> Boiler drain                | <b>T8</b> Inspection door    |

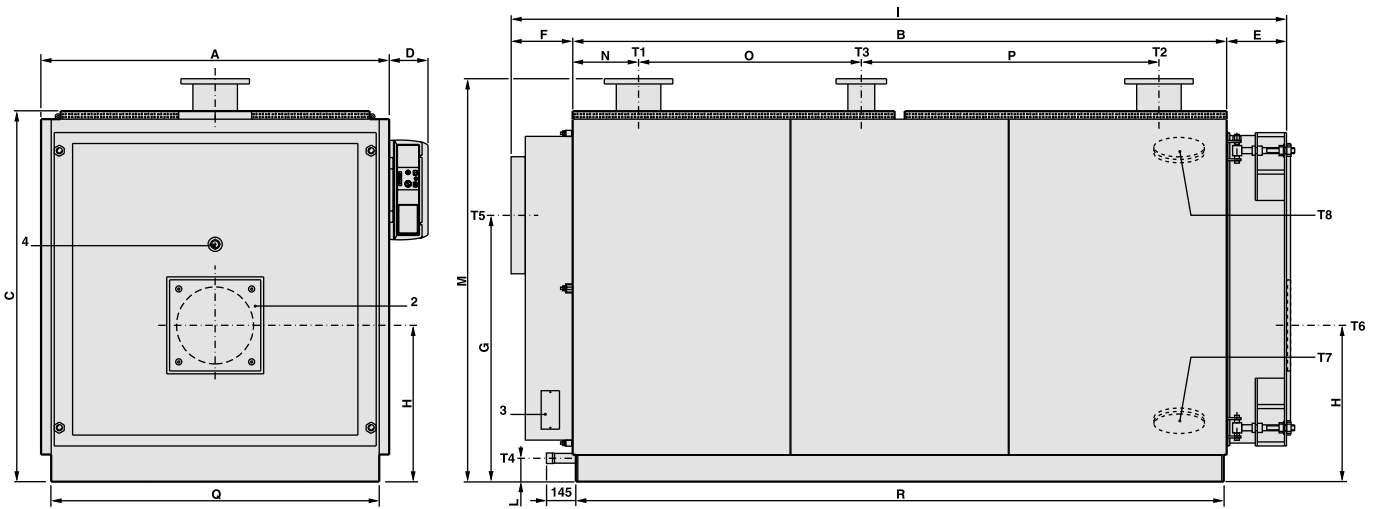
| ELLPREX     | Nominal output<br>kW | Nominal input<br>kW | Boiler capacity<br>l | Water pressure drops(**)<br>m w.c. | Flue gas pressure drop<br>mm w.c. | Maximum boiler working pressure<br>bar | Weight<br>kg | CONNECTIONS |             |         |          |         |
|-------------|----------------------|---------------------|----------------------|------------------------------------|-----------------------------------|--|--------------|-------------|-------------|---------|----------|---------|
|             |                      |                     |                      |                                    |                                   |  |              | T1<br>T2    | T3          | T4      | T5<br>Øi | T6<br>Ø |
|             |                      |                     |                      |                                    |                                   |  |              | UNI2278PN16 | UNI2278PN16 | ISO 7/1 | mm       | mm      |
| <b>1100</b> | 860÷1100             | 935÷1200            | 1040                 | 0.18÷0.30                          | 32÷52                             | 6                                      | 1821         | DN 150      | DN 80       | Rp 1½   | 400      | 320     |
| <b>1320</b> | 1000÷1320            | 1087÷1442           | 1242                 | 0.20÷0.35                          | 38÷67                             | 6                                      | 2030         | DN 150      | DN 80       | Rp 1½   | 400      | 320     |
| <b>1570</b> | 1200÷1570            | 1304÷1715           | 1418                 | 0.19÷0.33                          | 35÷60                             | 6                                      | 2780         | DN 175      | DN 100      | Rp 1½   | 450      | 320     |
| <b>1850</b> | 1400÷1850            | 1520÷2020           | 1617                 | 0.26÷0.45                          | 42÷73                             | 6                                      | 3280         | DN 175      | DN 100      | Rp 1½   | 450      | 320     |
| <b>2200</b> | 1700÷2200            | 1845÷2400           | 2086                 | 0.21÷0.34                          | 39÷65                             | 6                                      | 4145         | DN 200      | DN 125      | Rp 1½   | 520      | 380     |
| <b>2650</b> | 2000÷2650            | 2170÷2890           | 2324                 | 0.28÷0.48                          | 43÷76                             | 6                                      | 4465         | DN 200      | DN 125      | Rp 1½   | 520      | 380     |

| ELLPREX     | A    | B    | C    | D   | E   | F   | G   | H   | I    | L   | M*   | N   | O   | P   | Q*   | R*   |
|-------------|------|------|------|-----|-----|-----|-----|-----|------|-----|------|-----|-----|-----|------|------|
|             | mm   | mm   | mm   | mm  | mm  | mm  | mm  | mm  | mm   | mm  | mm   | mm  | mm  | mm  | mm   | mm   |
| <b>1100</b> | 1352 | 1952 | 1432 | 190 | 207 | 187 | 810 | 595 | 2346 | 180 | 1540 | 461 | 330 | 500 | 1250 | 1846 |
| <b>1320</b> | 1352 | 2292 | 1432 | 190 | 207 | 187 | 810 | 595 | 2686 | 180 | 1540 | 461 | 670 | 500 | 1250 | 2186 |
| <b>1570</b> | 1462 | 2282 | 1542 | 190 | 227 | 272 | 880 | 640 | 2781 | 75  | 1650 | 561 | 510 | 550 | 1360 | 2176 |
| <b>1850</b> | 1462 | 2652 | 1542 | 190 | 227 | 272 | 880 | 640 | 3151 | 75  | 1650 | 561 | 880 | 550 | 1360 | 2546 |
| <b>2200</b> | 1622 | 2692 | 1702 | 190 | 259 | 274 | 950 | 690 | 3225 | 75  | 1810 | 661 | 670 | 700 | 1520 | 2590 |
| <b>2650</b> | 1622 | 3014 | 1702 | 190 | 258 | 273 | 950 | 690 | 3545 | 75  | 1810 | 662 | 990 | 700 | 1520 | 2910 |

(\*) Minimum dimensions for boiler room access. (\*\*) Pressure drops corresponding to a thermal variation of 15K.

On special order the boilers from model 1100 to 7000 can be manufactured for a max. working pressure up to 10 bar.

DIMENSIONS ELLPREX 3000÷4000



- 1 Panel board
- 2 Burner fixing plate
- 3 Smoke chamber cleaning door
- 4 Sight glass

- T1 C.H. flow
- T2 C.H. return
- T3 Expansion vessel connection
- T4 Boiler drain

- T5 Flue socket
- T6 Burner connection
- T7 Sludge drain
- T8 Inspection door

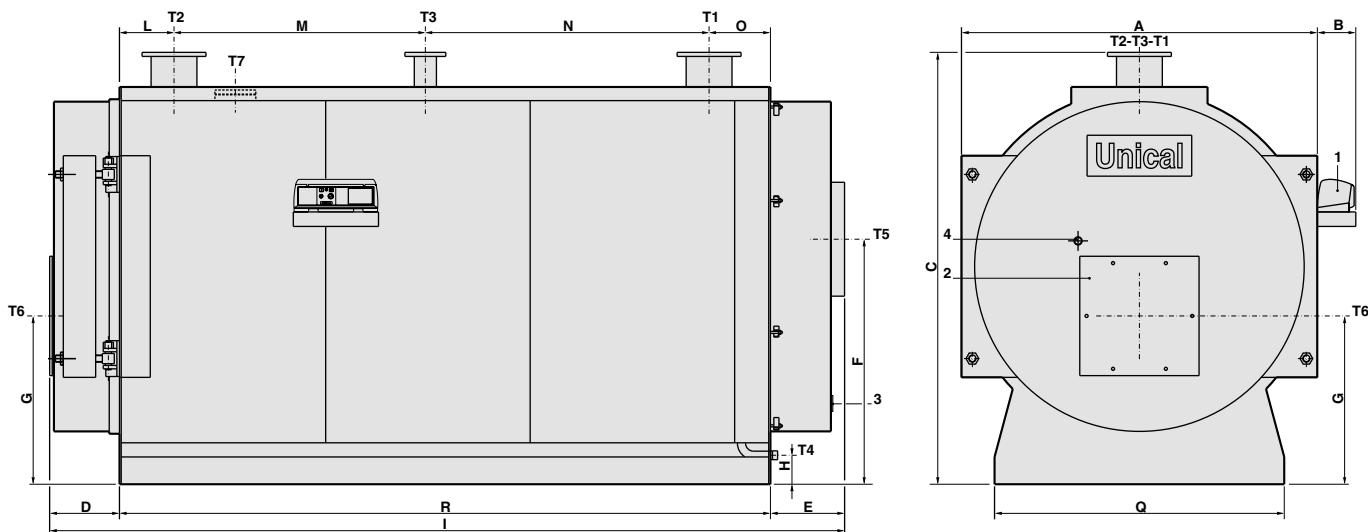
| ELLPREX | Nominal output<br>kW | Nominal input<br>kW | Boiler capacity<br>l | Water pressure drops(**)<br>m w.c. | Flue gas pressure drop<br>mm w.c. | Maximum boiler working pressure<br>bar | Weight<br>kg | CONNECTIONS |             |         |          |         |
|---------|----------------------|---------------------|----------------------|------------------------------------|-----------------------------------|--|--------------|-------------|-------------|---------|----------|---------|
|         |                      |                     |                      |                                    |                                   |  |              | T1<br>T2    | T3          | T4      | T5<br>Øi | T6<br>Ø |
|         |                      |                     |                      |                                    |                                   |  |              | UNI2278PN16 | UNI2278PN16 | ISO 7/1 | mm       | mm      |
| 3000    | 2300÷3000            | 2492÷3280           | 2667                 | 0.36÷0.62                          | 35÷60                             | 6                                      | 5110         | DN 200      | DN 125      | Rp 1½   | 570      | 380     |
| 3500    | 2700÷3500            | 2930÷3825           | 4142                 | 0.54÷0.84                          | 47÷74                             | 6                                      | 6700         | DN 200      | DN 125      | Rp 1½   | 620      | 400     |
| 4000    | 3040÷4000            | 3297÷4371           | 4455                 | 0.54÷0.85                          | 60÷80                             | 6                                      | 7500         | DN 250      | DN 125      | Rp 1½   | 620      | 400     |

| ELLPREX | A    | B    | C    | D   | E   | F   | G    | H   | I    | L   | M*   | N   | O    | P    | Q*   | R*   |
|---------|------|------|------|-----|-----|-----|------|-----|------|-----|------|-----|------|------|------|------|
|         | mm   | mm   | mm   | mm  | mm  | mm  | mm   | mm  | mm   | mm  | mm   | mm  | mm   | mm   | mm   | mm   |
| 3000    | 1720 | 3230 | 1830 | 190 | 295 | 310 | 1315 | 772 | 3835 | 115 | 1990 | 325 | 1100 | 1470 | 1620 | 3200 |
| 3500    | 1970 | 3194 | 2090 | 190 | 325 | 360 | 1535 | 915 | 3879 | 144 | 2271 | 377 | 1060 | 1420 | 1870 | 3164 |
| 4000    | 1970 | 3594 | 2090 | 190 | 325 | 360 | 1535 | 915 | 4279 | 144 | 2271 | 777 | 1060 | 1420 | 1870 | 3564 |

(\*) Minimum dimensions for boiler room access. (\*\*) Pressure drops corresponding to a thermal variation of 15K.

On special order the boilers from model ELLPREX 1100 to ELLPREX 7000 can be manufactured for a max. working pressure up to 10 bar.

## DIMENSIONS ELLPREX 4500÷7000



- |                                      |                                       |                              |
|--------------------------------------|---------------------------------------|------------------------------|
| <b>1</b> Panel board                 | <b>T1</b> Heating flow                | <b>T5</b> Chimney connection |
| <b>2</b> Burner connection flange    | <b>T2</b> Heating return              | <b>T6</b> Burner connection  |
| <b>3</b> Smoke chamber cleaning door | <b>T3</b> Expansion vessel connection | <b>T7</b> Inspection door    |
| <b>4</b> Flame control warning light | <b>T4</b> Boiler drain                |                              |

| ELLPREX     | Nominal output<br>kW | Nominal input<br>kW | Boiler capacity<br>l | Water pressure drops(**)<br>m w.c. | Flue gas pressure drop<br>mm w.c. | Maximum boiler working pressure<br>bar | Weight<br>kg | CONNECTIONS |             |         |          |         |         |
|-------------|----------------------|---------------------|----------------------|------------------------------------|-----------------------------------|--|--------------|-------------|-------------|---------|----------|---------|---------|
|             |                      |                     |                      |                                    |                                   |  |              | T1<br>T2    | T3          | T4      | T5<br>Øi | T6<br>Ø | T7<br>Ø |
|             |                      |                     |                      |                                    |                                   |  |              | UNI2278PN16 | UNI2278PN16 | ISO 7/1 | mm       | mm      | mm      |
| <b>4500</b> | 3420÷4500            | 3638.3÷4838.7       | 6012                 | 0.70÷0.85                          | 51÷88                             | 6                                      | 8310         | DN 250      | DN 125      | Rp 1½   | 660      | 500     | 133     |
| <b>5000</b> | 3800÷5000            | 4064.2÷5421.8       | 6012                 | 0.80÷1.05                          | 65÷110                            | 6                                      | 8310         | DN 250      | DN 125      | Rp 1½   | 660      | 500     | 133     |
| <b>5500</b> | 4180÷5500            | 4446.8÷5914         | 7058                 | 0.95÷1.15                          | 60÷100                            | 6                                      | 9300         | DN 250      | DN 125      | Rp 1½   | 660      | 500     | 133     |
| <b>6000</b> | 4560÷6000            | 4877÷6506.2         | 7058                 | 1.00÷1.35                          | 68÷120                            | 6                                      | 9300         | DN 250      | DN 125      | Rp 1½   | 660      | 500     | 133     |
| <b>6500</b> | 4940÷6500            | 5255.3÷6989.2       | 7909                 | 1.05÷1.50                          | 61÷105                            | 6                                      | 12600        | DN 250      | DN 125      | Rp 1½   | 720      | 500     | 133     |
| <b>7000</b> | 5320÷7000            | 5689.8÷7590.5       | 7909                 | 1.10÷1.75                          | 69÷120                            | 6                                      | 12600        | DN 250      | DN 125      | Rp 1½   | 720      | 500     | 133     |

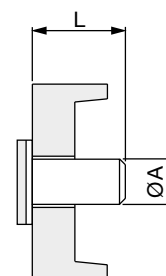
| ELLPREX     | A    | B   | C*   | D   | E   | F    | G    | H   | I    | L   | M    | N    | O   | Q*   | R*   |
|-------------|------|-----|------|-----|-----|------|------|-----|------|-----|------|------|-----|------|------|
|             | mm   | mm  | mm   | mm  | mm  | mm   | mm   | mm  | mm   | mm  | mm   | mm   | mm  | mm   | mm   |
| <b>4500</b> | 2088 | 226 | 2533 | 417 | 445 | 1437 | 987  | 170 | 4682 | 320 | 1475 | 1665 | 360 | 1700 | 3820 |
| <b>5000</b> | 2088 | 226 | 2533 | 417 | 445 | 1437 | 987  | 170 | 4682 | 320 | 1475 | 1665 | 360 | 1700 | 3820 |
| <b>5500</b> | 2214 | 240 | 2653 | 437 | 465 | 1550 | 1007 | 167 | 4872 | 320 | 1475 | 1815 | 360 | 1700 | 3970 |
| <b>6000</b> | 2214 | 240 | 2653 | 437 | 465 | 1550 | 1007 | 167 | 4872 | 320 | 1475 | 1815 | 360 | 1700 | 3970 |
| <b>6500</b> | 2380 | 240 | 2860 | 509 | 595 | 1650 | 1100 | 224 | 5484 | 325 | 2920 | 670  | 465 | 1850 | 4380 |
| <b>7000</b> | 2380 | 240 | 2860 | 509 | 595 | 1650 | 1100 | 224 | 5484 | 325 | 2920 | 670  | 465 | 1850 | 4380 |

(\*) Minimum dimensions for boiler room access. (\*\*) Pressure drops corresponding to a thermal variation of 15K.

On special order the boilers from model ELLPREX 1100 to ELLPREX 7000 can be manufactured for a max. working pressure up to 10 bar.

## BURNER BLAST TUBE DIMENSIONS

| BOILER TYPE       | øA<br>mm | L<br>mm | BOILER TYPE       | øA<br>mm | L<br>mm |
|-------------------|----------|---------|-------------------|----------|---------|
| ELLPREX 340÷630   | 220      | 250     | ELLPREX 3000      | 380      | 400     |
| ELLPREX 760÷970   | 270      | 270     | ELLPREX 3500÷4000 | 400      | 400     |
| ELLPREX 1100÷1320 | 320      | 300     | ELLPREX 4500÷6000 | 500      | 520     |
| ELLPREX 1570÷1850 | 320      | 320     | ELLPREX 6500÷7000 | 500      | 630     |
| ELLPREX 2200÷2650 | 380      | 350     |                   |          |         |



TECHNICAL DATA

**ELECTRICAL, HYDRAULIC, INSTALLATION DIAGRAMS AND CONTROLLERS can be unloaded from the web site [www.unical.eu](http://www.unical.eu) at the page of the product**

| Oil fired  |      | ELL 340       | ELL 420       | ELL 510       | ELL 630       | ELL 760        | ELL 870        | ELL 970   | ELL 1100  |
|--|------|---------------|---------------|---------------|---------------|----------------|----------------|-----------|-----------|
| Nominal heat output                              | kW   | 255÷340       | 315÷420       | 385÷510       | 480÷630       | 580÷760        | 660÷870        | 750÷970   | 860÷1100  |
| Thermal output of furnace                        | kW   | 277÷371       | 342÷459       | 418÷557       | 520÷688       | 630÷830        | 715÷950        | 815÷1060  | 935÷1200  |
| Heat efficiency at nominal load (100%)           | %    | 92÷91.6       | 92.1÷91.5     | 92.1÷91.5     | 92.3÷91.5     | 92÷91.5        | 91.5÷91.5      | 92÷91.5   | 91.9÷91.6 |
| Heat efficiency at 30% load                      | %    | 93.6÷93.6     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9      | 93.9÷93.9      | 93.9÷93.9 | 93.9÷93.9 |
| Combustion efficiency at nominal load (100%)     | %    | 92.8÷92.5     | 92.7÷92.4     | 92.7÷92.4     | 92.6÷92       | 92.3÷92.1      | 92.1÷92.1      | 92.5÷91.9 | 92.3÷92   |
| Heat loss at casing (min.-max.)                  | %    | 0.8÷0.8       | 0.6÷0.9       | 0.6÷0.9       | 0.3÷0.4       | 0.2÷0.5        | 0.5÷0.5        | 0.4÷0.4   | 0.4÷0.3   |
| Heat loss at chimney with burner on (min.-max.)  | %    | 7.1÷7.4       | 7.2÷7.5       | 7.3÷7.5       | 7.3÷7.9       | 7.6÷7.8        | 7.8÷7.8        | 7.4÷8     | 7.6÷7.9   |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        | 0.2÷0.2   | 0.2÷0.2   |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 156÷164       | 158÷166       | 160÷165       | 162÷175       | 168÷173        | 158÷172        | 164÷177   | 167÷175   |
| CO <sub>2</sub> content                          | %    | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8      | 12.8÷12.8      | 12.8÷12.8 | 12.8÷12.8 |
| Flue gas mass flow rate (min.-max)               | kg/h | 424÷568       | 523÷702       | 640÷852       | 796÷1053      | 964÷1271       | 1094÷1454      | 1248÷1632 | 1431÷1837 |
| Oil fired  |      | ELL 1320      | ELL 1570      | ELL 1850      | ELL 2200      | ELL 2650       | ELL 3000       | ELL 3500  | ELL 4000  |
| Nominal heat output                              | kW   | 1000÷1320     | 1200÷1570     | 1400÷1850     | 1700÷2200     | 2000÷2650      | 2300÷3000      | 2700÷3500 | 3040÷4000 |
| Thermal output of furnace                        | kW   | 1087÷1442     | 1304÷1715     | 1520÷2020     | 1845÷2400     | 2170÷2890      | 2492÷3280      | 2930÷3825 | 3297÷4371 |
| Heat efficiency at nominal load (100%)           | %    | 92÷91.5       | 92÷91.5       | 92.1÷91.5     | 92.1÷91.6     | 92.1÷91.7      | 92.3÷91.4      | 92.1÷91.4 | 92.2÷91.5 |
| Heat efficiency at 30% load                      | %    | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9      | 93.9÷93.9      | 93.9÷93.9 | 93.9÷93.9 |
| Combustion efficiency at nominal load (100%)     | %    | 92.2÷91.8     | 92.2÷91.9     | 92.4÷91.8     | 92.4÷91.9     | 92.4÷92        | 92.4÷91.7      | 92.4÷91.7 | 92.4÷91.8 |
| Heat loss at casing (min.-max.)                  | %    | 0.2÷0.2       | 0.2÷0.3       | 0.3÷0.3       | 0.3÷0.3       | 0.3÷0.3        | 0.1÷0.3        | 0.3÷0.3   | 0.2÷0.3   |
| Heat loss at chimney with burner on (min.-max.)  | %    | 7.7÷8.1       | 7.7÷8         | 7.5÷8.1       | 7.5÷8         | 7.5÷7.9        | 7.5÷8.2        | 7.5÷8.2   | 7.5÷8.1   |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        | 0.2÷0.2   | 0.2÷0.2   |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 170÷179       | 170÷177       | 165÷178       | 165÷176       | 165÷175        | 165÷180        | 165÷180   | 165÷179   |
| CO <sub>2</sub> content                          | %    | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8      | 12.8÷12.8      | 12.8÷12.8 | 12.8÷12.8 |
| Flue gas mass flow rate (min.-max)               | kg/h | 1664÷2208     | 1996÷2626     | 2327÷3093     | 2825÷3675     | 3322÷4425      | 3816÷5022      | 4486÷5861 | 5048÷6693 |
| Oil fired  |      | ELL 4500      | ELL 5000      | ELL 5500      | ELL 6000      | ELL 6500       | ELL 7000       |           |           |
| Nominal heat output                              | kW   | 3420÷4500     | 3800÷5000     | 4180÷5500     | 4560÷6000     | 4940÷6500      | 5320÷7000      |           |           |
| Thermal output of furnace                        | kW   | 3638.3÷4838.7 | 4064.2÷5421.8 | 4446.8÷5914   | 4877÷6506.2   | 5255.3÷6989.2  | 5689.8÷7590.5  |           |           |
| Heat efficiency at nominal load (100%)           | %    | 94.0÷93.0     | 93.5÷92.22    | 94.0÷93.0     | 93.5÷92.22    | 94.0÷93.0      | 93.5÷92.22     |           |           |
| Heat efficiency at 30% load                      | %    | 94.66÷93.65   | 94.15÷92.87   | 94.66÷93.65   | 94.15÷92.87   | 94.66÷93.65    | 94.15÷92.87    |           |           |
| Combustion efficiency at nominal load (100%)     | %    | 94.53÷93.48   | 94.07÷92.84   | 94.53÷93.48   | 94.07÷92.84   | 94.53÷93.48    | 94.07÷92.84    |           |           |
| Heat loss at casing (min.-max.)                  | %    | 0.53÷0.48     | 0.57÷0.62     | 0.53÷0.48     | 0.57÷0.62     | 0.53÷0.48      | 0.57÷0.62      |           |           |
| Heat loss at chimney with burner on (min.-max.)  | %    | 5.47÷6.52     | 5.93÷7.16     | 5.47÷6.52     | 5.93÷7.16     | 5.47÷6.52      | 5.93÷7.16      |           |           |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        |           |           |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 120÷143       | 130÷157       | 120÷143       | 130÷157       | 120÷143        | 130÷157        |           |           |
| CO <sub>2</sub> content                          | %    | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8     | 12.8÷12.8      | 12.8÷12.8      |           |           |
| Flue gas mass flow rate (min.-max)               | kg/h | 5571.4÷7409.6 | 6223.5÷8302.5 | 6809.4÷9056.1 | 7468.2÷9963.0 | 8047.5÷10702.7 | 8712.9÷11623.5 |           |           |
| Gas fired  |      | ELL 340       | ELL 420       | ELL 510       | ELL 630       | ELL 760        | ELL 870        | ELL 970   | ELL 1100  |
| Nominal heat output                              | kW   | 255÷340       | 315÷420       | 385÷510       | 480÷630       | 580÷760        | 660÷870        | 750÷970   | 860÷1100  |
| Thermal output of furnace                        | kW   | 277÷371       | 342÷459       | 418÷557       | 520÷688       | 630÷830        | 715÷950        | 815÷1060  | 935÷1200  |
| Heat efficiency at nominal load (100%)           | %    | 92÷91.6       | 92.1÷91.5     | 92.1÷91.5     | 92.3÷91.5     | 92÷91.5        | 92.3÷91.5      | 92÷91.5   | 91.9÷91.6 |
| Heat efficiency at 30% load                      | %    | 93.6÷93.6     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9      | 93.9÷93.9      | 93.9÷93.9 | 93.9÷93.9 |
| Combustion efficiency at nominal load (100%)     | %    | 92.9÷92.5     | 92.8÷92.4     | 92.7÷92.4     | 92.6÷92       | 92.3÷92.1      | 92.8÷92.1      | 92.5÷91.9 | 91.4÷92   |
| Heat loss at casing (min.-max.)                  | %    | 0.8÷0.8       | 0.7÷0.9       | 0.6÷0.9       | 0.3÷0.4       | 0.2÷0.5        | 0.5÷0.6        | 0.5÷0.4   | 0.4÷0.3   |
| Heat loss at chimney with burner on (min.-max.)  | %    | 7.1÷7.4       | 7.1÷7.5       | 7.2÷7.5       | 7.3÷7.9       | 7.6÷7.8        | 7.1÷7.8        | 7.4÷8     | 7.6÷7.9   |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        | 0.2÷0.2   | 0.2÷0.2   |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 145÷152       | 147÷154       | 149÷153       | 151÷163       | 156÷161        | 147÷160        | 152÷165   | 155÷163   |
| CO <sub>2</sub> content                          | %    | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8        | 9.8÷9.8        | 9.8÷9.8   | 9.8÷9.8   |
| Flue gas mass flow rate (min.-max)               | kg/h | 416÷557       | 514÷689       | 628÷837       | 781÷1034      | 947÷1247       | 1074÷1428      | 1225÷1593 | 1405÷1803 |
| Gas fired  |      | ELL 1320      | ELL 1570      | ELL 1850      | ELL 2200      | ELL 2650       | ELL 3000       | ELL 3500  | ELL 4000  |
| Nominal heat output                              | kW   | 1000÷1320     | 1200÷1570     | 1400÷1850     | 1700÷2200     | 2000÷2650      | 2300÷3000      | 2700÷3500 | 3040÷4000 |
| Thermal output of furnace                        | kW   | 1087÷1442     | 1304÷1715     | 1520÷2020     | 1845÷2400     | 2170÷2890      | 2492÷3280      | 2930÷3825 | 3297÷4371 |
| Heat efficiency at nominal load (100%)           | %    | 92÷91.5       | 92÷91.5       | 92.1÷91.5     | 92.1÷91.6     | 92.1÷91.7      | 92.3÷91.4      | 92.1÷91.4 | 92.2÷91.5 |
| Heat efficiency at 30% load                      | %    | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9     | 93.9÷93.9      | 93.9÷93.9      | 93.9÷93.9 | 93.9÷93.9 |
| Combustion efficiency at nominal load (100%)     | %    | 92.2÷91.8     | 92.2÷91.9     | 92.4÷91.9     | 92.4÷91.9     | 92.4÷92        | 92.4÷91.8      | 92.4÷91.8 | 92.4÷91.8 |
| Heat loss at casing (min.-max.)                  | %    | 0.2÷0.3       | 0.2÷0.4       | 0.3÷0.3       | 0.3÷0.3       | 0.3÷0.3        | 0.2÷0.3        | 0.3÷0.3   | 0.2÷0.3   |
| Heat loss at chimney with burner on (min.-max.)  | %    | 7.7÷8.1       | 7.7÷8         | 7.5÷8.1       | 7.5÷8         | 7.5÷7.9        | 7.5÷8.1        | 7.5÷8.1   | 7.5÷8.1   |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        | 0.2÷0.2   | 0.2÷0.2   |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 158÷166       | 158÷165       | 153÷166       | 153÷164       | 153÷163        | 153÷167        | 153÷167   | 153÷166   |
| CO <sub>2</sub> content                          | %    | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8        | 9.8÷9.8        | 9.8÷9.8   | 9.8÷9.8   |
| Flue gas mass flow rate (min.-max)               | kg/h | 1633÷2167     | 1960÷2577     | 2284÷3036     | 2773÷3607     | 3261÷4344      | 3745÷4930      | 4404÷5754 | 4955÷6570 |
| Gas fired  |      | ELL 4500      | ELL 5000      | ELL 5500      | ELL 6000      | ELL 6500       | ELL 7000       |           |           |
| Nominal heat output                              | kW   | 3420÷4500     | 3800÷5000     | 4180÷5500     | 4560÷6000     | 4940÷6500      | 5320÷7000      |           |           |
| Thermal output of furnace                        | kW   | 3638.3÷4838.7 | 4064.2÷5421.8 | 4446.8÷5914   | 4877÷6506.2   | 5255.3÷6989.2  | 5689.8÷7590.5  |           |           |
| Heat efficiency at nominal load (100%)           | %    | 94.0÷93.0     | 93.5÷92.22    | 94.0÷93.0     | 93.5÷92.22    | 94.0÷93.0      | 93.5÷92.22     |           |           |
| Heat efficiency at 30% load                      | %    | 94.66÷93.65   | 94.15÷92.87   | 94.66÷93.65   | 94.15÷92.87   | 94.66÷93.65    | 94.15÷92.87    |           |           |
| Combustion efficiency at nominal load (100%)     | %    | 94.54÷93.51   | 94.05÷92.83   | 94.54÷93.46   | 94.05÷92.83   | 94.54÷93.46    | 94.05÷92.83    |           |           |
| Heat loss at casing (min.-max.)                  | %    | 0.54÷0.51     | 0.55÷0.61     | 0.54÷0.46     | 0.55÷0.61     | 0.54÷0.46      | 0.55÷0.61      |           |           |
| Heat loss at chimney with burner on (min.-max.)  | %    | 5.46÷6.49     | 5.95÷7.17     | 5.46÷6.54     | 5.95÷7.17     | 5.46÷6.54      | 5.95÷7.17      |           |           |
| Heat loss at chimney with burner off (min.-max.) | %    | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2       | 0.2÷0.2        | 0.2÷0.2        |           |           |
| Flue gas temperature tf-ta (min.-max.)           | °C   | 112÷133       | 122÷147       | 112÷134       | 122÷147       | 112÷134        | 122÷147        |           |           |
| CO <sub>2</sub> content                          | %    | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8       | 9.8÷9.8        | 9.8÷9.8        |           |           |
| Flue gas mass flow rate (min.-max)               | kg/h | 5468.9÷7273.3 | 6109.0÷8149.8 | 6684.2÷8889.5 | 7330.8÷9779.7 | 7899.5÷10505.8 | 8552.6÷11409.7 |           |           |