

| Position                                       | Einheit                   | C             | SK            | Anthrazit     | BK            | Holz          | HEL           | HS            | VR            |
|--|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Eingaben</b>                                |                           |               |               |               |               |               |               |               |               |
| <b>Zusammensetzung</b>                         |                           |               |               |               |               |               |               |               |               |
| Kohlenstoff                                    | Gew %                     | 100.0%        | 72.0%         | 85.0%         | 30.0%         | 42.0%         | 86.2%         | 85.10%        | 84.00%        |
| Wasserstoff                                    | Gew %                     | 0.0%          | 4.0%          | 3.0%          | 3.0%          | 5.0%          | 13.0%         | 9.90%         | 9.90%         |
| Schwefel                                       | Gew %                     | 0.0%          | 1.0%          | 1.0%          | 1.0%          | 0.0%          | 0.3%          | 3.70%         | 5.70%         |
| Sauerstoff                                     | Gew %                     | 0.0%          | 6.4%          | 2.0%          | 10.0%         | 37.0%         | 0.5%          | 0.00%         | 0.00%         |
| Stickstoff                                     | Gew %                     | 0.0%          | 1.1%          | 1.0%          | 1.0%          | 0.0%          | 0.0%          | 0.60%         | 0.40%         |
| Wasser   | Gew %                     | 0.0%          | 8.0%          | 3.0%          | 50.0%         | 15.0%         | 0.0%          | 0.40%         | 0.00%         |
| Asche  | Gew %                     | 0.0%          | 7.5%          | 5.0%          | 5.0%          | 1.0%          | 0.0%          | 0.30%         | 0.00%         |
| <b>Summe</b>                                   | <b>Gew %</b>              | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> |
| <b>Bezug</b>                                   |                           |               |               |               |               |               |               |               |               |
| Sauerstoffgehalt                               | %                         | 6.0           | 6.0           | 6.0           | 6.0           | 6.0           | 3.0           | 3.0           | 3.0           |
| Luftüberschusszahl, Lambda                     | -                         | 1.40          | 1.39          | 1.39          | 1.39          | 1.40          | 1.16          | 1.16          | 1.16          |
| <b>Ergebnisse</b>                              |                           |               |               |               |               |               |               |               |               |
| <b>bezogen auf kg Brennstoff</b>               |                           |               |               |               |               |               |               |               |               |
| Heizwert Hu                                    | MJ / kg                   | 34.80         | 28.10         | 32.27         | 11.10         | 14.94         | 42.18         | 39.33         | 39.15         |
| Mindestluftmenge L <sub>min</sub>              | m <sup>3</sup> i. N./ kg  | 8.89          | 7.29          | 8.32          | 3.17          | 3.83          | 11.12         | 10.33         | 10.30         |
| Luftmenge L <sub>real</sub>                    | m <sup>3</sup> i. N./ kg  | 12.44         | 10.13         | 11.59         | 4.40          | 5.36          | 12.85         | 11.96         | 11.92         |
| Trockenes Rauchgas V <sub>tr,min</sub>         | m <sup>3</sup> i. N./ kg  | 8.89          | 7.10          | 8.16          | 3.07          | 3.81          | 10.38         | 9.76          | 9.73          |
| Trockenes Rauchgas V <sub>tr,real</sub>        | m <sup>3</sup> i. N./ kg  | 12.45         | 9.96          | 11.44         | 4.31          | 5.33          | 12.13         | 11.41         | 11.37         |
| Feuchtes Rauchgas V <sub>f</sub>               | m <sup>3</sup> i. N./ kg  | 12.45         | 10.50         | 11.81         | 5.26          | 6.08          | 13.57         | 12.51         | 12.47         |
| <b>bezogen auf MWh Brennstoff in Hu</b>        |                           |               |               |               |               |               |               |               |               |
| Heizwert Hu                                    | kWh/kg                    | 9.67          | 7.80          | 8.97          | 3.08          | 4.15          | 11.72         | 10.92         | 10.88         |
| Mindestluftmenge L <sub>min</sub>              | m <sup>3</sup> i. N./ MWh | 920           | 934           | 928           | 1,028         | 924           | 949           | 945           | 947           |
| Luftmenge L <sub>real</sub>                    | m <sup>3</sup> i. N./ MWh | 1,287         | 1,298         | 1,292         | 1,426         | 1,291         | 1,097         | 1,094         | 1,096         |
| Trockenes Rauchgas V <sub>tr</sub>             | m <sup>3</sup> i. N./ MWh | 1,287         | 1,276         | 1,276         | 1,397         | 1,285         | 1,035         | 1,044         | 1,045         |
| Feuchtes Rauchgas V <sub>f</sub>               | m <sup>3</sup> i. N./ MWh | 1,287         | 1,346         | 1,318         | 1,706         | 1,464         | 1,158         | 1,145         | 1,146         |
| V <sub>tr,min</sub> /L <sub>min</sub>          | -                         | 1.00          | 0.97          | 0.98          | 0.97          | 0.99          | 0.93          | 0.95          | 0.94          |
| <b>SO<sub>2</sub> im trockenem Rohrauchgas</b> |                           |               |               |               |               |               |               |               |               |
| Schwefeldioxid in V <sub>tr</sub>              | mg / m <sup>3</sup> i.N.  | 0             | 2,008         | 1,748         | 4,646         | 0             | 495           | 6,488         | 10,030        |
| Schwefeldioxid in V <sub>tr</sub>              | g / MWh                   | 0             | 2,563         | 2,231         | 6,489         | 0             | 512           | 6,774         | 10,482        |
| <b>SO<sub>2</sub> Abscheidung</b>              |                           |               |               |               |               |               |               |               |               |
| Grenzwert                                      | mg / m <sup>3</sup> i.N.  | 400           | 400           | 400           | 400           | 400           | 400           | 400           | 400           |
| Erforderlicher Abscheidegrad                   | -                         | 0%            | 80%           | 77%           | 91%           | 0%            | 19%           | 94%           | 96%           |
| Grenzwert                                      | mg / m <sup>3</sup> i.N.  | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           |
| Erforderlicher Abscheidegrad                   | -                         | 0%            | 90%           | 89%           | 96%           | 0%            | 60%           | 97%           | 98%           |
| <b>CO<sub>2</sub> in trockenem Rauchgas</b>    |                           |               |               |               |               |               |               |               |               |
| CO <sub>2,max</sub> im trockenen Abgas         | Vol %                     | 21.0%         | 19.0%         | 19.5%         | 18.3%         | 20.6%         | 15.5%         | 16.3%         | 16.2%         |
| CO <sub>2,max</sub> im Abgas                   | kg / MWh                  | 382           | 341           | 351           | 361           | 373           | 272           | 288           | 286           |
| CO <sub>2,max</sub> im Abgas                   | kg / GJ                   | 106           | 95            | 97            | 100           | 104           | 75            | 80            | 80            |

| Position                                    | Einheit                                      | H2            | CH4           | Propan C3H8   | Butan C4H10   | CO            | Gichtgas      | Konvertergas  | Kokereigas    | Grubengas     | Klärgas       | Deponiegas    |
|---|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Zusammensetzung</b>                      |  |               |               |               |               |               |               |               |               |               |               |               |
| Wasserstoff H <sub>2</sub>                  | Vol %  | 100.0%        | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 4.0%          | 2.5%          | 54.0%         | 0.0%          | 0.0%          | 0.00%         |
| Kohlenmonoxid CO                            | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 100.0%        | 23.0%         | 63.0%         | 6.0%          | 0.0%          | 0.0%          | 0.00%         |
| Methan CH <sub>4</sub>                      | Vol %  | 0.0%          | 100.0%        | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 25.0%         | 75.0%         | 0.0%          | 65.0%         | 55.00%        |
| Athylen C <sub>2</sub> H <sub>4</sub>       | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.00%         |
| Ethan C <sub>2</sub> H <sub>6</sub>         | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.00%         |
| Azethylen C <sub>2</sub> H <sub>2</sub>     | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.00%         |
| Propan C <sub>3</sub> H <sub>8</sub>        | Vol %  | 0.0%          | 0.0%          | 100.0%        | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.00%         |
| Butan C <sub>4</sub> H <sub>10</sub>        | Vol %  | 0.0%          | 0.0%          | 0.0%          | 100.0%        | 0.0%          | 0.0%          | 0.0%          | 2.5%          | 0.0%          | 0.0%          | 0.00%         |
| Stickstoff                                  | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 51.0%         | 18.0%         | 10.0%         | 0.0%          | 0.0%          | 0.00%         |
| CO <sub>2</sub>                             | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 22.0%         | 16.0%         | 2.5%          | 20.0%         | 35.0%         | 45.00%        |
| Sauerstoff                                  | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.5%          | 0.0%          | 5.0%          | 0.0%          | 0.00%         |
| Wasser                                      | Vol %  | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.0%          | 0.00%         |
| <b>Summe</b>                                | <b>%</b>                                     | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> | <b>100.0%</b> |
| Sauerstoffgehalt, Kesselfeuerung            | %  | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           | 3.0           |
| Luftüberschubzahl                           | -  | 1.13          | 1.15          | 1.17          | 1.17          | 1.20          | 1.38          | 1.24          | 1.15          | 1.15          | 1.16          | 1.16          |
| <b>Ergebnisse</b>                           |  |               |               |               |               |               |               |               |               |               |               |               |
| <i>bezogen auf m<sub>n</sub> Brennstoff</i> |  |               |               |               |               |               |               |               |               |               |               |               |
| Brennwert Ho                                | MJ/m <sup>3</sup>                            | 12.74         | 39.82         | 101.24        | 133.78        | 12.63         | 3.41          | 8.28          | 20.94         | 29.87         | 25.88         | 21.90         |
| Heizwert Hu                                 | MJ/m <sup>3</sup>                            | 10.78         | 35.88         | 93.24         | 123.57        | 12.63         | 3.34          | 8.23          | 18.64         | 26.91         | 23.32         | 19.73         |
| Mindestluftmenge L <sub>min</sub>           | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 2.38          | 9.52          | 23.81         | 30.95         | 2.38          | 0.64          | 1.54          | 4.58          | 6.90          | 6.19          | 5.24          |
| Luftmenge L <sub>real</sub>                 | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 2.69          | 10.94         | 27.78         | 36.11         | 2.86          | 0.89          | 1.90          | 5.29          | 7.97          | 7.17          | 6.09          |
| Trockenes Rauchgas V <sub>tr,min</sub>      | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 1.88          | 8.52          | 23.81         | 30.95         | 2.88          | 1.47          | 2.18          | 4.22          | 6.40          | 5.89          | 5.14          |
| Trockenes Rauchgas V <sub>tr,real</sub>     | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 2.19          | 9.94          | 27.78         | 36.11         | 3.36          | 1.71          | 2.55          | 4.92          | 7.47          | 6.87          | 5.99          |
| Feuchtes Rauchgas V <sub>f,min</sub>        | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 2.88          | 10.52         | 25.81         | 33.45         | 2.88          | 1.51          | 2.21          | 5.32          | 7.90          | 7.19          | 6.24          |
| Feuchtes Rauchgas V <sub>f,real</sub>       | m <sup>3</sup> / m <sub>n</sub> <sup>3</sup> | 3.13          | 11.80         | 29.78         | 38.61         | 3.46          | 2.07          | 2.73          | 5.97          | 8.89          | 8.12          | 7.08          |
| <i>bezogen auf MWh Brennstoff Hu</i>        |  |               |               |               |               |               |               |               |               |               |               |               |
| Brennwert Ho                                | kWh / m <sub>n</sub> <sup>3</sup>            | 3.54          | 11.06         | 28.12         | 37.16         | 3.51          | 0.95          | 2.30          | 5.82          | 8.30          | 7.19          | 6.08          |
| Heizwert Hu                                 | kWh / m <sub>n</sub> <sup>3</sup>            | 2.99          | 9.97          | 25.90         | 34.33         | 3.51          | 0.93          | 2.29          | 5.18          | 7.48          | 6.48          | 5.48          |
| Mindestluftmenge L <sub>min</sub>           | m <sup>3</sup> i. N. / MWh                   | 795           | 956           | 919           | 902           | 679           | 694           | 672           | 885           | 924           | 956           | 956           |
| Luftmenge L <sub>real</sub>                 | m <sup>3</sup> i. N. / MWh                   | 900           | 1,098         | 1,073         | 1,052         | 816           | 958           | 831           | 1,021         | 1,067         | 1,107         | 1,112         |
| Trockenes Rauchgas V <sub>tr,min</sub>      | m <sup>3</sup> i. N. / MWh                   | 628           | 855           | 919           | 902           | 821           | 1,584         | 955           | 815           | 857           | 909           | 937           |
| Trockenes Rauchgas V <sub>tr,real</sub>     | m <sup>3</sup> i. N. / MWh                   | 733           | 998           | 1,073         | 1,052         | 958           | 1,848         | 1,115         | 951           | 1,000         | 1,061         | 1,094         |
| Feuchtes Rauchgas V <sub>f</sub>            | m <sup>3</sup> i. N. / MWh                   | 962           | 1,056         | 997           | 975           | 821           | 1,627         | 966           | 1,028         | 1,057         | 1,110         | 1,138         |
| Feuchtes Rauchgas V <sub>f,real</sub>       | m <sup>3</sup> i. N. / MWh                   | 1,045         | 1,183         | 1,150         | 1,125         | 987           | 2,230         | 1,193         | 1,153         | 1,190         | 1,254         | 1,291         |
| V <sub>tr,min</sub> /L <sub>min</sub>       | -  | 0.79          | 0.90          | 1.00          | 1.00          | 1.21          | 2.28          | 1.42          | 0.92          | 0.93          | 0.95          | 0.98          |
| <b>CO<sub>2</sub> im Rauchgas</b>           |  |               |               |               |               |               |               |               |               |               |               |               |
| CO <sub>2,max</sub> im trockenen Abgas      | Vol %  | 0.0%          | 11.7%         | 12.6%         | 12.9%         | 34.7%         | 30.7%         | 36.2%         | 10.3%         | 14.8%         | 17.0%         | 19.5%         |
| CO <sub>2,max</sub> im Abgas                | kg / MWh                                     | 0             | 198           | 229           | 230           | 564           | 960           | 683           | 166           | 251           | 305           | 361           |
| CO <sub>2,max</sub> im Abgas                | kg / GJ                                      | 0             | 55            | 64            | 64            | 157           | 267           | 190           | 46            | 70            | 85            | 100           |

| Brenngas                                |
|---|
| Wasserstoff H <sub>2</sub>              |
| Kohlenmonoxid CO                        |
| Methan CH <sub>4</sub>                  |
| Ethylen C <sub>2</sub> H <sub>4</sub>   |
| Ethan C <sub>2</sub> H <sub>6</sub>     |
| Azethylen C <sub>2</sub> H <sub>2</sub> |
| Propan C <sub>3</sub> H <sub>8</sub>    |
| Butan C <sub>4</sub> H <sub>10</sub>    |