# Technical data of experimental investigations

## Flow conditions and geometrical properties :

| | | |
|---|---|---|
| Inlet gas velocities | $u_F$ | $10, \ldots, 25\ m/s$ |
| Gas volume flow rate | $\dot{V}_F$ | $230, \ldots, 1500\ m^3/h$ |
| Particle concentration | $c_P$ | $0.1, \ldots, 0.8\ g/m^3$ |
| Cyclon diameter at symmetry plane | $D_1$ | $230\ mm$ |
| Cyclon diameter at the inlet of the settling chamber | $D_2$ | $120\ mm$ |
| Length of the cyclon main section | $L$ | $253\ mm$ |
| Diameter of the clean gas exit | $d_T$ | $70\ mm$ |
| Distance of the clean gas exit from the symmetry plane | $l_T$ | $15\ mm$ |
| Inlet cross section of ZS | $a \times b$ | $82 \times 100\ mm^2$ |
| Inlet cross section of ZT | $a \times b$ | $20 \times 320\ mm^2$ |
| Size of the particle settling chamber | $W_c \times H_c \times D_c$ | $80 \times 538 \times 276\ mm^3$ |

## Measurment technique :

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|---|---|
| particle dispersion : | RBG 1000, PALLAS GmbH, Karlsruhe, Germany |
| particle sampling : | isokinetic sampling from the feed and the clean gas flow |
| particle size measurement : | scattered light particle sizer PCS 2000, PALLAS GmbH, Karlsruhe, Germany |

## Particle material :

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|---|---|
| delivered by : | OMYA GmbH, Köln |
| trademark : | OMYACARB 2–GU |
| calcium carbonate content in raw material : | $\geq 98$ % (limestone) |
| density : | $2700\ kg/m^3$ |
| median $x_{50,3}$ of cummulative distribution function $Q_3$ : | $2.5\ \mu m$ |
| particle content with $d_P < 2\ \mu m$ : | 40 % |

**Investigation of Particle Separation in Symmetrical Double Cyclone Separators**

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