

# Heat Recovery Ventilation - Calculation Sheet

|                                  |                  |    |
|----------------------------------|------------------|----|
| Project Name                     | W P Architecture |    |
| Project Ref No.                  | Building M       |    |
| Date                             | 16/09/2022       |    |
| Build as per Building regulation | 2010             |    |
| Project Type                     | House            |    |
| Building Air Tight ?             | Yes              |    |
| Total Project Area               | 225              | m2 |
| Floor Height                     | 2.4              | m  |
| No of Bedrooms                   | 9                |    |
| Additional Occupants             | 0                |    |

| Extraction            | Flow rates (l/s) |                      |                 |
|-----------------------|------------------|----------------------|-----------------|
|                       | L/s              | Continuous - Minimum | Boost - Maximum |
| Kitchen               | 15               | 7.5                  | 15.0            |
| Utility               | 10               | 5.0                  | 10.0            |
| Ground Floor Bathroom | 10               | 5.0                  | 10.0            |
| Secind Floor Bathroom | 10               | 5.0                  | 10.0            |
| Ensuite               | 10               | 5.0                  | 10.0            |
| Ensuite               | 10               | 5.0                  | 10.0            |
| Ensuite               | 10               | 5.0                  | 10.0            |
| Ensuite               | 10               | 5.0                  | 10.0            |
| Bed 1                 | 10               | 5.0                  | 10.0            |
| Bed 2                 | 10               | 5.0                  | 10.0            |
| Bed 3                 | 10               | 5.0                  | 10.0            |
| Bed 4                 | 10               | 5.0                  | 10.0            |
| Bed 5                 | 10               | 5.0                  | 10.0            |

|       |     |      |       |
|-------|-----|------|-------|
| Total | 135 | 67.5 | 135.0 |
|-------|-----|------|-------|

| Supply Diffusers | Flow Rate (l/s)        |                      |                 |
|------------------|------------------------|----------------------|-----------------|
|                  | Area (m <sup>2</sup> ) | Continuous - Minimum | Boost - Maximum |
| Living / Dining  | 45                     | 18.6                 | 37.1            |
| Bed 1            | 14.9                   | 6.1                  | 12.3            |
| Bed 2            | 13                     | 5.4                  | 10.7            |
| Bed 3            | 13                     | 5.4                  | 10.7            |
| Bed 4            | 13.8                   | 5.7                  | 11.4            |
| Bed 5            | 12.2                   | 5.0                  | 10.1            |
| Bed 6            | 15.2                   | 6.3                  | 12.5            |
| Bed 7            | 11.5                   | 4.7                  | 9.5             |
| Bed 8            | 11.5                   | 4.7                  | 9.5             |
| Bed 9            | 13.5                   | 5.6                  | 11.1            |
|                  |                        |                      |                 |
|                  |                        |                      |                 |
|                  |                        |                      |                 |

|       |       |      |       |
|-------|-------|------|-------|
| Total | 163.6 | 67.5 | 135.0 |
|-------|-------|------|-------|

|                                      |       |     |
|--------------------------------------|-------|-----|
| Minimum Extraction rate (L/s)        | 135.0 | l/s |
| Ventilation Occupancy based (l/s)    | 45.0  | l/s |
| Trickle Ventilation Area based (l/s) | 67.5  | l/s |
| Boost Ventilation Area based (l/s)   | 135.0 | l/s |

|            |      |
|------------|------|
| 0.3 x Area | 67.5 |
|------------|------|

|                                    |       |     |
|------------------------------------|-------|-----|
| Supply Rate (Minimum - Continuous) | 67.5  | l/s |
| Extraction Rate (Maximum - Boost)  | 135.0 | l/s |

|                |                   |
|----------------|-------------------|
| Unit Selection | Komfort EC LB 700 |
|----------------|-------------------|