## 3.3 Technical data overview

**Table 3-5: Technical data**

| | R-210 Rotavapor without display | R-215 Rotavapor with display | B-491 Heating bath | B-495 Heating bath |
|---|---|---|---|---|
| Glass assemblies | A, V, C, S, E, CR, BY | | | |
| Dimensions ( W x H x D) | 550 x 575 x 415 mm | | 285 x 240 x 300 mm | 310 x 230 x 320 mm |
| Weight | 16 – 18 kg (depending on the glass assembly) | | 4 kg | 5 kg |
| Connection voltage | 100 – 240 V ± 10% | | 100 – 120 V or 220 – 240 V ± 10% | |
| Mains connection | 3-pole (P, N, E) via power cord | | 3-pole (P, N, E) via power cord | |
| Frequency | 50 / 60 Hz | | 50 / 60 Hz | |
| Heating power | | | 1300 W | |
| Power consumption | max. 60 W | | max. 1700 W | |
| Installation category | II | | II | |
| Degree of protection | IP21 | | IP21 | |
| Pollution degree | 2 | | 2 | |
| Rotation speed range | 20 – 280 rpm | | | |
| Flask size | 50 – 4000 ml | | up to 4000 ml | up to 5000 ml |
| Max. flask content | 3 kg | | | |
| Temperature control range | | | 20 °C – 180 °C | 20 °C – 95 °C |
| Display | | Rotation speed / vapor temperature | Set / actual temperature | |
| Temperature accuracy | ± 3 °C | | | |
| Environmental conditions<br>Temperature<br>Altitude<br>Humidity | for indoor use only<br>5 – 40 °C<br>up to 2000 m<br>maximum relative humidity 80% for temperatures up to 31 °C, and then linearly decreasing to 50% at 40 °C | | | |
| Bath content | | | 4 l | 5 l |
| Vacuum tightness of system with 1 l evapo-rating and 1 l receiving flask | 5 mbar per 3 minutes at a pressure of < 10 mbar | | | |
| Temperature resistance P+G | ca. -70 °C – 60 °C | | | |
| Temperature resistance P+G low temperature | -80 °C – 50 °C | | | |
| Temperature resistance protective shield | < 160 °C | | | |

## 3.4 Solvent table

**Table 3-6: Solvent table**

| Solvent | Formula | Molar mass in g / mol | Evaporation energy in J / g | Boiling point at 1013 mbar | Density in g / cm3 | Vacuum in mbar for boiling point at 40 °C |
|---|---|---|---|---|---|---|
| Acetone | $CH_3H_6O$ | 58.1 | 553 | 56 | 0.790 | 556 |
| n-amylalcohol, n-pentanol | $C_5H1_2O$ | 88.1 | 595 | 37 | 0.814 | 11 |
| Benzene | $C_6H_6$ | 78.1 | 548 | 80 | 0.877 | 236 |
| n-butanol | $C_4H_{10}O$ | 74.1 | 620 | 118 | 0.810 | 25 |
| tert. butanol (2-methyl-2-propanol) | $C_4H_{10}O$ | 74.1 | 590 | 82 | 0.789 | 130 |
| Chlorobenzene | $C_6H_5Cl$ | 112.6 | 377 | 132 | 1.106 | 36 |
| Chloroform | $CHCl_3$ | 119.4 | 264 | 62 | 1.483 | 474 |
| Cyclohexane | $C_6H_{12}$ | 84.0 | 389 | 81 | 0.779 | 235 |
| Diethylether | $C_4H_{10}O$ | 74.0 | 389 | 35 | 0.714 | atmospheric |
| 1,2-dichloroethane | $C_2H_4Cl_2$ | 99.0 | 335 | 84 | 1.235 | 210 |
| 1,2-dichloroethylene (cis) | $C_2H_2Cl_2$ | 97.0 | 322 | 60 | 1.284 | 479 |
| 1,2-dichloroethylene (trans) | $C_2H_2Cl_2$ | 97.0 | 314 | 48 | 1.257 | 751 |
| Diisopropyl ether | $C_6H_{14}O$ | 102.0 | 318 | 68 | 0.724 | 375 |
| Dioxane | $C_4H_8O_2$ | 88.1 | 406 | 101 | 1.034 | 107 |
| DMF (dimethyl-formamide) | $C_3H_7NO$ | 73.1 | | 153 | 0.949 | 11 |
| Acetic acid | $C_2H_4O_2$ | 60.0 | 695 | 118 | 1.049 | 44 |
| Ethanol | $C_2H_6O$ | 46.0 | 879 | 79 | 0.789 | 175 |
| Ethylacetate | $C_4H_8O_2$ | 88.1 | 394 | 77 | 0.900 | 240 |
| Heptane | $C_7H_{16}$ | 100.2 | 373 | 98 | 0.684 | 120 |
| Hexane | $C_6H_{14}$ | 86.2 | 368 | 69 | 0.660 | 360 |
| Isopropylalcohol | $C_3H_8O$ | 60.1 | 699 | 82 | 0.786 | 137 |
| Isoamylalcohol (3-methyl-1-butanol) | $C_5H_{12}O$ | 88.1 | 595 | 129 | 0.809 | 14 |
| Methylethylketone | $C_4H_8O$ | 72.1 | 473 | 80 | 0.805 | 243 |
| Methanol | $CH_4O$ | 32.0 | 1227 | 65 | 0.791 | 337 |
| Methylene chloride, dichloromethane | $CH_2Cl_2$ | 84.9 | 373 | 40 | 1.327 | atmospheric |
| Pentane | $C_5H_{12}$ | 72.1 | 381 | 36 | 06.26 | atmospheric |
| n-propylalcohol | $C_3H_8O$ | 60.1 | 787 | 97 | 0.804 | 67 |
| Pentachloroethane | $C_2HCl_5$ | 202.3 | 201 | 162 | 1.680 | 13 |
| 1,1,2,2-tetra-chloroethane | $C_2H_2Cl_4$ | 167.9 | 247 | 146 | 1.595 | 20 |
| Tetrachlorocarbon | $CCl_4$ | 153.8 | 226 | 77 | 1.594 | 271 |
| 1,1,1-trichloroethane | $C_2H_3Cl_3$ | 133.4 | 251 | 74 | 1.339 | 300 |
| Tetra-chloro-ethylene | $C_2Cl_4$ | 165.8 | 234 | 121 | 1.623 | 53 |
| THF (tetrahydrofurane) | $C_4H_8O$ | 72.1 | | 67 | 0.889 | 374 |
| Toluene | $C_7H_8$ | 92.2 | 427 | 111 | 0.867 | 77 |
| Trichloroethylene | $C_2HCl_3$ | 131.3 | 264 | 87 | 1.464 | 183 |
| Water | $H_2O$ | 18.0 | 2261 | 100 | 1.000 | 72 |
| Xylene (mixture) | $C_8H_{10}$ | 106.2 | 389 | | | 25 |
| o-xylene | $C_8H_{10}$ | 106.2 | | 144 | 0.880 | |
| m-xylene | $C_8H_{10}$ | 106.2 | | 139 | 0.864 | |
| p-xylene | $C_8H_{10}$ | 106.2 | | 138 | 0.861 | |