## ■ Large Vacuum Heat Treatment Equipment List

| Plant                   | Himeji                                                                                                                                                 | Himeji                                                                                                                                                 | Ibaraki                                                                                                                                                | Ibaraki                                                                                                                                                | Gunma                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Туре                    | Vertical single chamber(#8113)                                                                                                                         | Vertical two chamber(#8101)                                                                                                                            | Horizontal single chamber(#3110)                                                                                                                       | Horizontal three chamber(#3116)                                                                                                                        | Horizontal three chamber(#0233)                                                                                                                        |
| Temperature range (°C)  | 540 <b>~</b> 1200                                                                                                                                      | 450 <b>~</b> 1200                                                                                                                                      | 450 <b>~</b> 1100                                                                                                                                      | 450 <b>~</b> 1280                                                                                                                                      | 500 ~ 1150                                                                                                                                             |
| Working Zone (mm)       | ф2000 × 3350H                                                                                                                                          | ф1200 × 1400H                                                                                                                                          | 2000W × 2000L × 800H                                                                                                                                   | 1100W × 1800L × 1100H                                                                                                                                  | 1200W × 1800L × 1000H                                                                                                                                  |
| Max loading weight (kg) | 3500                                                                                                                                                   | 900                                                                                                                                                    | 3000                                                                                                                                                   | 1500                                                                                                                                                   | 1500                                                                                                                                                   |
| Application             | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>brazing for stainless steel,<br>heat resistant alloy and alloyed steel. | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>brazing for stainless steel,<br>heat resistant alloy and alloyed steel. | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>brazing for stainless steel,<br>heat resistant alloy and alloyed steel. | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>brazing for stainless steel,<br>heat resistant alloy and alloyed steel. | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>brazing for stainless steel,<br>heat resistant alloy and alloyed steel. |
| Remarks                 | · Pressurized cooling<br>Ar: 185kPa<br>N2: 260kPa                                                                                                      | · Nadcap accredited<br>· Pressurized cooling<br>Ar: 200kPa<br>N2: 280kPa                                                                               |                                                                                                                                                        | · AMS 2750E compliant<br>· Pressurized cooling<br>Ar: 200kPa<br>N2: 200kPa                                                                             |                                                                                                                                                        |

| Plant                     | Gunma                                                                                                                                          | Shiga                                                                                                                                                  | Shiga                                                                                                     | Toki                                                                                                                         |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Туре                      | Horizontal three chamber (#0237)                                                                                                               | Horizontal single chamber(#0197)                                                                                                                       | Horizontal two chamber(#0195)                                                                             | Vertical single chamber(#7101)                                                                                               |
| Temperature range<br>(°C) | 480 ~ 1180                                                                                                                                     | 450 <b>~</b> 1260                                                                                                                                      | 450 ~ 1100                                                                                                | 510~1190                                                                                                                     |
| Working Zone (mm)         | 900W × 1350L × 1000H                                                                                                                           | 1200W × 1800L × 1200H                                                                                                                                  | 900W × 1200L × 1000H                                                                                      | ф2100×2700Н                                                                                                                  |
| Max loading weight (kg)   | 750                                                                                                                                            | 1800                                                                                                                                                   | 450°C ~ 649°C:200<br>650°C ~ 1100°C:300                                                                   | 3000                                                                                                                         |
| Application               | Quenching and tempering,<br>solution treatment,<br>Precipitation hardening,<br>for stainless steel, heat resistant alloy and<br>alloyed steel. | Quenching and tempering,<br>solution treatment,<br>precipitation hardening, brazing for<br>stainless steel, heat<br>resistant alloy and alloyed steel. | Quenching and tempering, solution treatment for stainless steel, heat resistant, steel and alloyed steel. | Quenching and tempering,<br>solution treatment,<br>precipitation hardening,<br>stress relief and brazing for<br>metal steel. |
| Remarks                   | MIL-H-6875 MIL-B-7883<br>AMS2750E IS                                                                                                           | · AMS compliant<br>· Pressurized cooling<br>Ar: 300 kPa (3 bar)<br>N 2: 500kPa (5bar)                                                                  | •MIL-H-6875 BAC •AMS accredited •Oil Cooling                                                              | •AMS2750G · Nadcap accredited •Product temperature measurement · Pressurized cooling Ar: 200kPa (2bar) N2: 200kPa (2bar)     |

