

Additional Information

1. Market share of chiller manufacturers in Costa Rica

In Costa Rica, the American manufacturers, such as Company A, Company B, and Company C, are dominant in the centrifugal chillers market, and those chillers are imported from the U.S.A.

2. Research on the IPLV values of chillers in Costa Rica

2.1 Capacity range of centrifugal chiller

Several models of centrifugal chiller of Company A, Company B, and Company C, are collected from the product catalogues in the U.S.A on the web and the capacity ranges of each lineup are shown in Figure 1 below.

It is observed that the centrifugal chiller produced by those companies are mainly non-inverter type and the minimum cooling capacity is 165 USRt while the maximum cooling capacity is 6000 USRt.

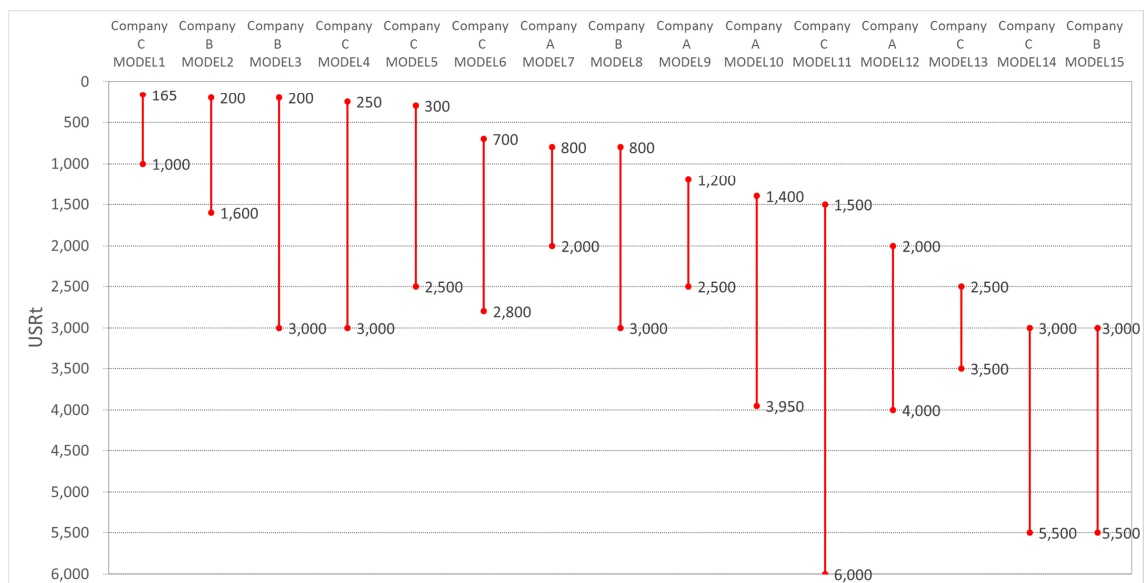


Figure 1: Capacity range of centrifugal chiller of non-inverter type

2.2 The reference IPLVs

IPLVs of centrifugal chillers of non-inverter type are also collected from the product catalogues. As a result, total 15 IPLV values ranging from 800 USRt to 3,500 USRt are obtained.

It is observed that similar IPLVs fall into a certain cooling capacity range and that the IPLVs tend to increase as the cooling capacity increases. Therefore, the IPLVs are divided into two cooling capacity ranges. The larger range covers from those more than or equal to USRt 2,000 to those less

than USRt 3,500 and the smaller range covers from those more than or equal to USRt 165 to those less than USRt 2,000. Although there is no IPLV data available for those chillers whose capacity is under USRt 800, it is deemed appropriate to set the minimum cooling capacity range at USRt 165 since there is observed tendency between cooling capacities and IPLVs as mentioned above. For each capacity range, the reference IPLV is set to ensure net emission reductions by selecting the most efficient IPLV which has the largest value in each capacity range. The IPLVs per cooling capacity, the capacity ranges and reference IPLVs are summarized in Figure 2 below.

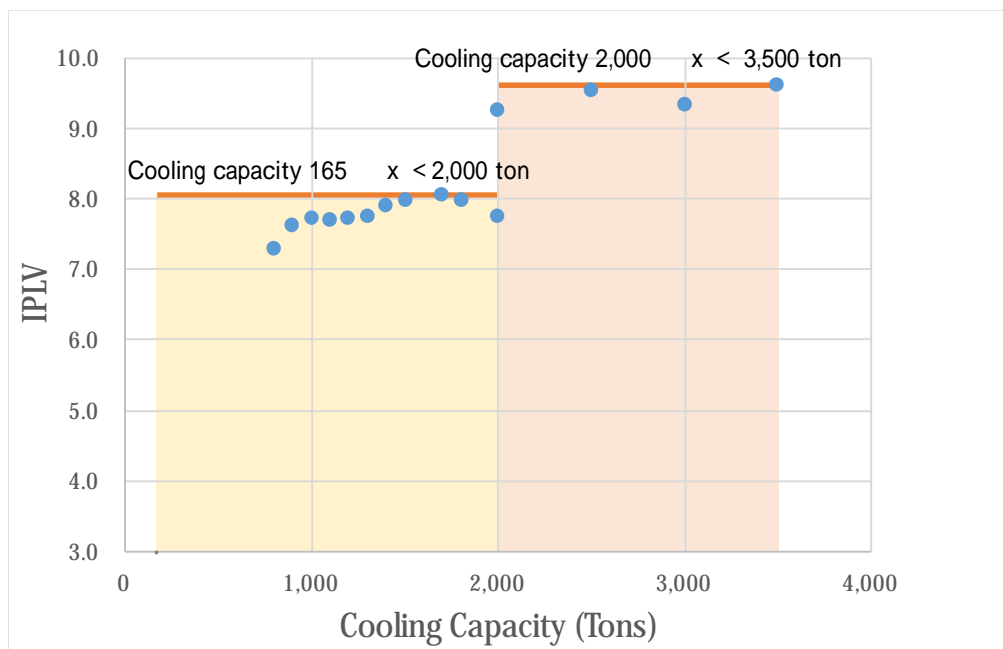


Figure 2: IPLVs of centrifugal chiller of non-inverter type marketed in Cost Rica

As the result, the reference IPLV for each cooling capacity range is determined and shown in Table 1 below.

Table 1: Default IPLV

| Cooling capacity per unit (USRt) | IPLV |
|-----------------------------------------------------------------------------|------|
| IPLV of reference Chiller (Cooling capacity $165 \leq x < 2,000$ USRt) | 8.04 |
| IPLV of reference Chiller (Cooling capacity $2,000 \leq x < 3,500$ USRt) | 9.60 |