

BUILDING EFFICIENCY

Selling Strategies and Tips
May 2014

Air-Cooled Chiller Selling Strategies and Tips

Part 1 of 3: Sales Pitch

Prime Retrofit - Air-Cooled YVAA Screw Chiller 150 - 500 tons

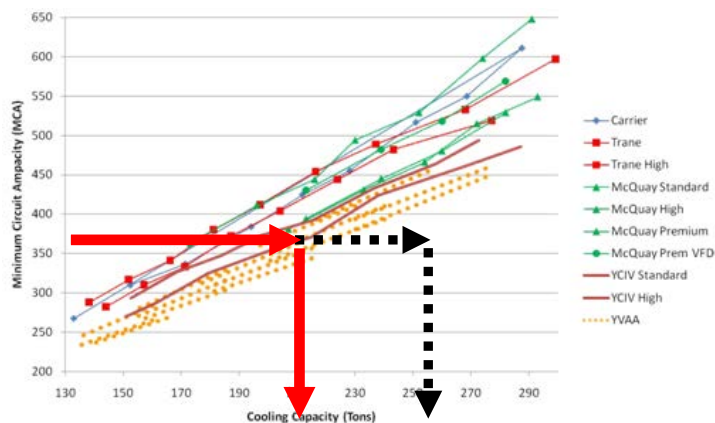
- **Lower Energy Cost** - Higher Efficiency vs Existing

- **Stock Chiller** - We have a Stock Chiller Program to offer immediate availability

- **Packaged Chiller & PSA Options**

- **Higher Tonnage - Same Electrical** - Listen for owner comments that might indicate that they have additional load since the original chiller was installed. Or maybe they might be adding a computer room or something else in the future that will slightly increase the load on the building. Normally, for simple chiller change-outs, re-using the existing electric service is necessary to keep costs in line. The YVAA chiller, because of its variable speed drive compressor and fans, can have a lower MCA and breaker size requirement compared to other chillers. Without upgrading the Owner's electrical service or breaker, you can most likely provide a 10%-20% larger chiller than they currently have. The ability to offer a slightly larger chiller without an electrical impact could help you close the prime retrofit order. If the customer's load has gone up more than a 10-20% larger chiller can handle, then you will probably need to do a more in-depth analysis, evaluating pipe size and pump flow.

	Trane RTAC 250	YORK YVAA0273
Actual Tons	239.8	270
MCA	489	459
Breaker Size	600	600



A Trane chiller at 200 tons has a MCA of 400, but with the YVAA you can get 240 tons at the same MCA.

(Changing out breakers and wire can add significant cost to a replacement job.)

- **Same Tonnage - Lower Sound** - If the owner is getting noise complaints from the

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neighbors, the YORK YVAA chiller can provide a quieter chiller without sacrificing tonnage or efficiency.

	Trane RTAC 250	YORK YVAA0273
dBA	102	94

- **Look for Power Company Rebates** - Most power companies have a rebate program for upgrading to a high efficiency chiller. The programs vary by area, but you can usually find the information with a simple Google search. Duke Energy in North Carolina would provide over \$17k cash back to an owner for buying our high efficiency YVAA. Putting the available rebate right on your scope letter to the owner might help you close the order.



Equipment Requirements Chillers Incentive Table & AHRI Rated Efficiency Requirements*

AIR COOLED CHILLERS – All Sizes Total Incentive = Base + Additional			
Scroll/Screw Type Chillers			
Full load EER	Base Incentive \$/ton	Part Load IPLV EER	Additional Incentive \$/ton
11.50	\$30.00	19.40	\$34.30

➔ York YVAA0318 at 270 tons is 11.5/20.2 EER and the rebate would be **\$17,361.00**

In Los Angeles, California the same YVAA0318 (270 tons 1.044/0.594 kW/ton) would have a \$14,310 rebate.



Qualifying Products

Chillers under Standard ARI Conditions

Chillers under Non-Standard ARI Conditions

Air-Cooled Chillers

Measure Code	Measure Description (IPLV (kW/Ton) Exceeding Title 24 Efficiency Requirement)	Rebate Amount Per Ton
A. Air-Cooled Chillers All Types & Sizes - Standard ARI Conditions		
CHA0100	1.108 to 1.086	\$8
CHA0200	1.085 to 1.063	\$15
CHA0300	1.062 to 1.040	\$30
CHA0400	≤1.039	\$53



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Part 2 of 3: Selection Strategy

This text email is related to the best ways to select our air-cooled chillers and how to maximize your competitive position.

Select YVAA chillers for actual tonnage, not nominal tonnage. Nominal Tonnage is nothing more than the model number of the chiller, RTAC-200, 30RB-210, etc. You should recognize that YORK by Johnson Controls is the only air-cooled chiller manufacturer that offers an exact tonnage rating (on our YVAA). You should never rate our YVAA at exact tonnages, like 200, 250, etc... If you are bidding against someone else's basis of design and the schedule simply says "200 tons", you need to figure out the actual tonnage and select a YVAA chiller that meets or is slightly less than the competitor's actual tonnage. You can determine actual tonnage by $(\text{Flow} \times \text{Delta } T) / 24 = \text{tons}$. Or you can look in the competition's engineering guide. As a side note, in rare cases, the competitor's nominal tonnage is less than actual capacity. In those cases, if the schedule says 200, then you should select 200 tons.

Take Away: Getting your hands on a purchase order is never easy. Spend a few extra minutes on the estimate to ensure you have leveraged yourself to have the most competitive option on the table. When it comes down to buyout, having an aggressively intelligent estimate will make a difference.

Even if you are basis of design, you should not provide your engineer with a selection at an exact tonnage. There are two reasons you should pick an odd number. The first reason is that some of our competitors might assume the "300 tons" shown on your schedule is nominal and they might just bid their model 300 chiller which would give them an advantage. If the schedule says 301.2 tons, they won't make that mistake. Secondly, you should take a few minutes to pull the competitor's engineering guide and provide a selection that gives us the best competitive advantage. Another great resource is the recently published Small Tonnage Air-Cooled and Water-Cooled Chiller Competitive Guide.

For example, a rating which would force them into a one size larger unit, or force them to jump to their premium efficiency option. Below is an example of an engineer who asks for an air-cooled chiller at "300 tons" For this example, we are assuming the engineer won't allow you to be flat spec'd on efficiency and our competitors will be allowed to bid. With 5 minutes of work, you can pull the engineering guides and have the information below:

Manufacturer	Carrier	Carrier	Trane	Trane	McQuay	McQuay
Model	30XA - 300	30XA - 325	RTAC - 300 HE	RTAC - 300 XE	AWS - 300CDH	AWS - 330CDH
Actual Tonnage	288.3	307.1	308.9	298.7	288.7	327.3
Full Load / IPLV	10.7 / 15.0	10.7 / 14.4	10.3 / 14.4	10.8 / 14.8	10.4 / 14.3	10.9 / 14.5

You could simply rate the YVAA at exactly 300 tons and sort by price to find the cheapest unit which is 10.5/15.4 unit at **~\$90k**

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But from a quick review of the competitive landscape, you could select a slightly more expensive chiller and rate it at 304.9 tons to get 10.9/15.5 for **\$93k**. This would force Trane and McQuay onto their Extra and High efficiency units, respectively. It would also help ensure that Carrier was forced into their model 325 instead of them seeing a schedule with "300" and simply bidding their model 300 machine.

Take Away: Put some thought into your BOD selections and pretend you were a competitor estimating the job. Look for ways to force the competition onto a larger or higher efficiency machine.

Below are some additional notes on how our air-cooled offering compares to the competition:

- Try to understand how the job will be secured and what the engineer will permit when providing a chiller selection. If for example the engineer is going to allow Carrier to bid even if they can't get to our efficiency, providing an YVAA BOD rating at 17.5 EER IPLV does not help us. It might help to be slightly more efficient than Carrier's 30XA, but if the job is going to be bought out by the low price contractor, being 20% more efficient than Carrier is not going to help us win the job.
- McQuay's published sound levels are lower than anyone else. Don't unnecessarily get into a sound discussion when you know McQuay is your main competition. Be sure to compare "apples-to-apples" when it comes to published sound. McQuay commonly publishes their A-weighted octave band when Johnson Controls does not, by doing this their sound appears lower but it actually is not. Refer to M-letter M-36-08 for further clarification.

Manufacturer	Tons	Sound Power Levels								dBa
		63	125	250	500	1000	2000	4000	8000	
McQuay	250	68	81	91	93	93	89	84	77	98
YVAA	250	91	93	97	97	93	90	82	77	98

Difference	23	12	6	4	0	1	-2	0	0
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McQuay published sound appears much lower especially in the 63 and 125 octave band

	63	125	250	500	1000	2000	4000	8000
A weighting factors	-27	-16	-9	-3	0	1	1	-1

To A-weight McQuay's octave bands these factors are applied

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Manufacturer	Tons	Sound Power Levels								
		63	125	250	500	1000	2000	4000	8000	dBA
McQuay	250	95	97	100	96	93	88	83	79	98
YVAA	250	91	93	97	97	93	90	82	77	98
Difference		-4	-4	-3	1	0	2	-1	-2	0

Now with an apples-to-apples comparison our sound octaves are lower!

- Carrier's chillers are the loudest of the group. If McQuay is out of the picture and you have a customer that likes Carrier, try to push our sound levels. If the customer believes sound is very important, you could even try to push our Sound Optimized YVAA and require Carrier to provide an expensive 3rd party sound wall enclosure to meet spec. This would take a dedicated owner, so you would try to play this card only if you know they will hold the spec.
- When going against Trane, our YLAA chiller from 140 - 175 tons is a great option. Trane's scroll product only goes up to 130 tons. Our YLAA against Trane's screw machine is a good spot for us.
- Above 175 tons, watch out for Carrier to push their 30RB scroll machine and try to force everyone else into bidding their screw machine. If you are forced to bid the YVAA against Carrier's 30RB, you will lose on first cost. You would need to make an efficiency play to win here.

Part 3 or 3: Competitive Comparison

This section covers the topic of general pricing levels (what GM% to bid) on the YVAA against different competitive situations. You should realize **that pricing recommendations are general and should be used as guidelines in conjunction with the specific facts on your project and market conditions.**

One important note:

The pricing recommendations below are assuming the competitor is permitted to bid against us and price is the determining factor (i.e., Trane/Carrier/McQuay BOD bidding to a contractor). If you are dealing with an owner sale where our higher efficiency is part of the decision process, or if you are BOD, then you could potentially get higher margins.

Below are some examples of when these guidelines may not be accurate:

- If our competitor ignores the spec and bids a unit which is not equal in efficiency or features, they will be cheaper
- If our competitor decides that a particular job has external significance, they might choose to simply give away the unit at cost, you will have to get more aggressive on price



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- If our competitor thinks they are flat spec'd and gets greedy, these guidelines might cause you to leave money on the table
- If a job consists of a chiller and other products, you have to evaluate our competitive position for each product to decide on an overall bid price

YVAA against....

Carrier 30XA - Aquaforce Air-Cooled Screw Chiller

- In general, this product is more expensive than an equivalent YVAA. The product has generally good full load efficiency but mediocre IPLV.
- We have not seen this yet, but we believe that Carrier is close to rolling out variable speed compressors on the 30XA model in the near future. If you see Carrier bid the "30XAV", let the Product Managers know. We expect it to have IPLV values around 18.0 EER
- When competing against this product, you should be on our cheapest YVAA option, which should have a slightly worse full load with a better IPLV. Example: our 250 ton YVAA at 10.3/15.6 vs Carrier at 10.7/14.3
- **In this situation, you should be able to bid ~12%-14% GM after rebate with minimal risk of losing on price.**

Carrier 30RB - AquaSnap Air Cooled Scroll Chiller

- This is a scroll chiller that goes up to 390 tons (with 16 compressors at that tonnage....)
- They can get IPLV values up to ~17.1 EER with variable speed condenser fans
- You should always try to avoid having to bid against this machine by forcing the job towards screw compressors only.
- This is a LOW cost chiller and if you are forced to compete against the 30RB with our YVAA, you will have to get extremely aggressive on price to have a chance.
- This assumes the unit you are bidding is similar in efficiency.
- **In this situation, you will have to bid ~8% - 10% GM after rebate to have any chance. You may need to get even more aggressive to close the job.**

McQuay Pathfinder - PREMIUM VSD Unit

- You can look up the Pathfinder's efficiency in their engineering guide and can determine if they are on their Standard, High or Premium efficiency unit.
- A Pathfinder Premium efficiency unit will be around 11.6/18.5 EER and higher
- Pull their engineering guide to make sure you are competing against their Premium Efficiency VSD unit
- This assumes the unit you are bidding is similar in efficiency.
- **In this situation, you can bid between 16%-20% GM after rebate with minimal risk of losing on price.**

McQuay Pathfinder - High or Premium Efficiency Unit WITHOUT VSD

- You can look up the Pathfinder's efficiency in their engineering guide and can determine if they are on a VSD unit.
- In this situation, we are not able to leverage the strength of our VSD compressors and McQuay gains the advantage.



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- This assumes the unit you are bidding is similar in efficiency.
- **In this situation, you will need to be reasonably aggressive. A price ~12% GM after rebate should provide minimal risk of losing on price.**

Trane RTAC - High Efficiency Unit

- This is an old design and Trane's lower cost option
- Even if you are on our cheapest YVAA, you will be significantly (>10%) more efficient (IPLV)
- When you are bidding a machine that is better (more efficient) as an equal, you have to get aggressive on price because you are not able to sell the value of our product.
- **In this situation, you will need to be reasonably aggressive. A price ~10%-12% GM after rebate should provide minimal risk of losing on price.**
- *NOTE: If you can ensure that factory post-coated corrosion protection is required (not field coating), you can get a couple extra points of margin because Trane's cost for this option is significantly higher than ours*

Trane RTAC - Extra Efficiency Unit

- This is an old design with an added condenser section to improve their full load efficiency.
- We are forced into chasing a high full load efficiency with poor IPLV values.
- If possible you should try to trade full load efficiency for IPLV. For example, if Trane is BOD with 11.2/14.2, you should try to get approval for ~10.6/15.6, which would improve our competitive situation.
- In this situation, If you are forced to meet their full load efficiency, you will significantly exceed their IPLV. Basically, giving away our competitive advantage
- **In this situation, you will need to be aggressive. A price ~11% GM after rebate should provide minimal risk of losing on price.**
- *NOTE: If you can ensure that factory post-coated corrosion protection is required (not field coating), you can get ~3 extra points of margin because Trane's cost for this option is significantly higher than ours and on their "extra efficiency" unit, they have even more condenser space.*

Trane RTAE - Variable Speed Air-Cooled Screw Chiller

- This is their new design and has efficiencies close to 12.0/20.2 EER. This new chiller can achieve higher efficiency as some conditions than the YVAA. When in that situation you can select a unit that will be within .5 IPLV. Machines that are .5 IPLV more efficient consume about \$2,000 more energy, so since this is Trane's premium offering they will be much more expensive.
- With the RTAE Trane does not publish NPLV, so when your conditions are not AHRI standards be sure to re-rate the unit at AHRI conditions (55/44, 95 ambient, 0 ft altitude, water as the fluid) so that your customer can compare apples to apples.
- In the initial rollout of this product, we saw competitive pricing levels, but they were probably trying to get a few installed units. Recently their prices have gone up significantly.
- The cost to build this unit is higher than our YVAA.
- They can beat our best full load and IPLV efficiency levels, but we can usually stay pretty close, depending on tonnage.



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- Keep an eye on the pressure drop, this unit typically is >25 ft of head. You can use a 3 pass evaporator for higher tonnage/efficiency or point out to your customer the higher pumping power required.
- **If you can avoid being spec'd out of the job on efficiency, you should be able to get 16%-20% GM with minimal risk of losing the order.** A few times we have received pricing feedback the RTAE was bid 25-40% higher than the YVAA.
- We have seen a few jobs recently where we could have won at 25% GM, but it might not be worth the risk to go that high.
- If you are bidding at these high margin levels, you need to ensure that the only prices being considered are the YVAA, Trane RTAE and Premium Efficiency VSD Pathfinder.
- Be prepared for a low cost voluntary VE by Carrier that doesn't meet spec.

As mentioned above, these are general guidelines. You know your market and customers and should make pricing decisions based on the dynamics for your particular job.