Product Specifications

IntelliPak™ I

Pre-Engineered Special: 60-75 ton with 40HP 208/230V/60Hz Motor

March 2020 **RT-PRC071B-EN**

Trane provides a Pre-engineered Design Special for IntelliPak 1 60, 70, and 75 ton units that need a 208/230V/60Hz 40HP supply motor. This option is disallowed under the standard model number in Lynx. The 50HP 200/230V motor is not available, so please make sure the 40HP motor meets the application needs.

The contents of this document can be used to add relevant data into a pre-made submittal to show the design special conversion.

Limitations

- Only available on 60, 70, & 75 Ton IntelliPak I units
- Electric heat allowed only with dual point power
- High Fault SCCR is disallowed
- Minimum 900 RPM drive
  - Actual RPM min of 850
- Maximum 1100 RPM drive
  - Actual RPM max of 1150
- Not allowed with 6 pole
- Not allowed with Direct Drive Plenum Supply Fans
  - DDP fans at these tonnages require 2 motors, which max out at 25HP a piece

Note: *UL is available*

Performance

Catalog: All of the performance data can be found in the catalog under the Supply Fan Performance Data. Use the required unit CFM and Total Static Pressure in order to find the actual BHP and RPM.

TOPSS: Select the unit as 460V/60Hz in order to get the cooling and heating performance of the unit, as well as other information such as EER/IEER, charge, weight, etc., with the 40HP motor design special. Converting the voltage from 200/230V to 460V will only affect the electrical data (MCA, MOP, etc). This will also let you know the required RPM.

Electrical: In order to get the electrical data for this design special, use the 208/230V electrical calculations called out for MCA, MOP & RDE in the most recent version on the IntelliPak I catalog (RT-PRC036*-EN).

Use the 40HP motor electrical data in Table 1, while using the existing the compressor, condenser, exhaust/return motor, and controls transformer data called out in the catalog. For units with electric heat, dual source power is required.

Electrical Service Sizing Calculations:

Load Definitions: (To determine load values, see the Electrical Service Sizing Data Tables.)

LOAD1 = CURRENT OF THE LARGEST MOTOR (COMPRESSOR OR FAN MOTOR)

LOAD2 = SUM OF THE CURRENTS OF ALL REMAINING MOTORS

LOAD3 = CURRENT OF ELECTRIC HEATERS

LOAD4 = ANY OTHER LOAD RATED AT 1 AMP OR MORE

Cooling Only Rooftop Units and Cooling with Gas Heat Rooftop Units

MCA = (1.25 x LOAD1) + LOAD2 + LOAD4

MOP = (2.25 x LOAD1) + LOAD2 + LOAD4

Select a fuse rating equal to the MOP value. If the MOP value does not equal a standard fuse size as listed in NEC 240-6, select the next lower standard fuse rating.

Note: *If selected MOP is less than the MCA, then reselect the lowest standard maximum fuse size which is equal to or larger than the MCA, provided the reselected fuse size does not exceed 800 amps.*

RDE = (1.5 x LOAD1) + LOAD2 + LOAD4

Select a fuse rating equal to the RDE value. If the RDE value does not equal a standard fuse size as listed in NEC 240-6, select the next higher standard fuse rating.

Note: *If the selected RDE is greater than the selected MOP value, then reselect the RDE value to equal the MOP value. (Keep in mind when determining LOADS that crankcase heaters are disabled in the cooling mode).*

DSS = 1.15 x (LOAD1 + LOAD2 + LOAD4)

Select a disconnect switch size equal to or larger than the DSS value calculated.

Dual Source Power Units (200V and 230V)

These units will have two circuit values shown on the nameplate. The first circuit value will be the refrigeration (cooling mode) values calculated per above (without electric heat added). The second set of circuit values shown on the nameplate will be for the electric heating circuit as follows.

MCA = (1.25 x LOAD3)

MOP = (1.25 x LOAD3)

Select a fuse rating for the electric heating circuit that is equal to the MOP value obtained in the equation above. If the MOP value does not equal a standard fuse size as listed in NEC 240-6, select the next lower standard fuse rating (see note below for exception).

Note: *If the available MOP option is less than the MCA obtained in the equation above, then reselect the lowest standard maximum fuse size which is equal to, or larger than the MCA, provided the reselected fuse size does not exceed 800 amps.*

RDE = LOAD3

Select a fuse rating for the electric heating circuit that is equal to the RDE value. If the RDE value does not equal a standard fuse size as listed in NEC 240-6, select the next higher standard fuse rating.

Notes:

1. If the selected RDE is greater than the selected MOP value, then reselect the RDE value to equal the MOP value.
2. The selected MOP value is stamped in the MOP field on the nameplate.

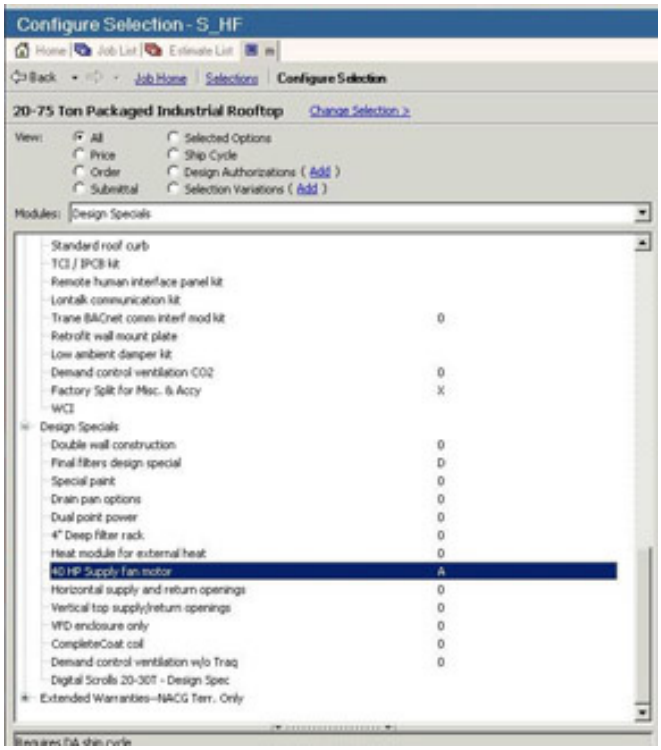
Table 1. 40HP motor data

Motor Horsepower	Nominal Voltage	
	200 FLA	230 FLA
40	108.0	98.0

Selection & Ordering Process

In Lynx, select the unit as a 30HP supply in digit 14 and the RPM needed in digit 15. If the RPM needed is above the allowed RPM for the 30HP (the 1100 RPM drive) a DSPA will be created. Contact Product Support for a no charge DSPA. The Design Special for the 40HP motor is located under the Design Specials Section in Lynx. Make sure this is selected before ordering.

Figure 1. Selection in Job Center (Lynx)



To obtain a valid TOPSS selection for ordering, you must lower the static pressure or CFM in order to select a 30HP motor and then select the Design Special for the 40HP motor In Job Center (Lynx) and in TOPSS. In the Job notes you must indicate the RPM that is available for 40HP motor you need. As stated before, if the RPM needed is the 1100 RPM drive (which is not available with the 30HP motor) a no charge DSPA can be created to add that option.

As shown in Figure 3, the selection in TOPSS will NOT show the correct electrical performance. It is only for ordering purposes. Please use the calculations given in the Electrical section above to determine the correct MCA and MOP. Again, this drop down is only for ordering purposes and the Supply HP in the Motor/Electrical Section will still call out the 30HP electrical data.

Figure 2. Selection in TOPSS

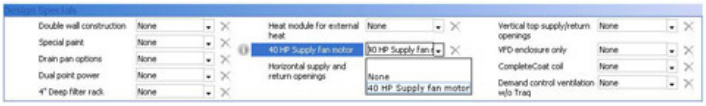
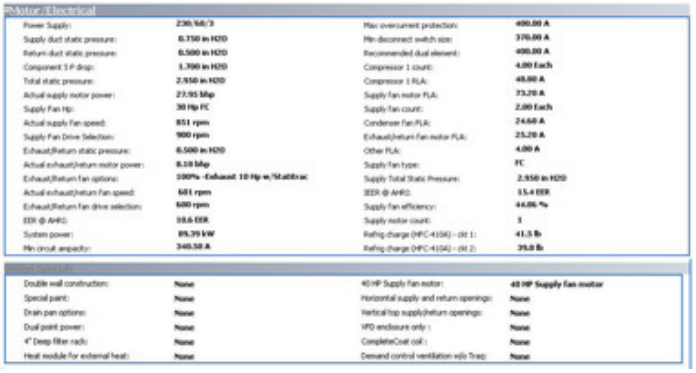


Figure 3. Output in TOPSS



Pricing

Pricing is in Job Center (Lynx)

Lead Time

Ship cycle "A" = Standard + 1 week

Quick Ship can be added with the additional multiplier.

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