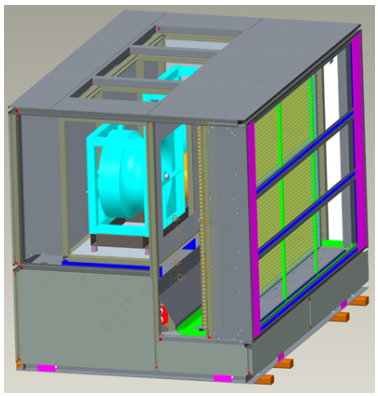
Product Specifications

Commercial Self Contained

Plenum Supply Fan

SCWF High Capacity 25-72, 80 Ton



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Mechanical Specifications

The supply fan shall be a single width/single inlet, 12-bladed plenum fan. Fan blades shall be backward-inclined airfoil. Plenum fans shall be belt-driven and equipped with self-aligning, anti-friction, pillow-block bearings with an L-50 life of 200,000 hours as calculated per ANSI/AFBMA Standard 9. The drive components shall include fixed pitch sheaves and multiple V-belt sized for 130% nominal motor horsepower.

The fan and motor assembly shall be internally isolated from the unit casing with rubber-in-shear isolators, furnished and installed by the unit manufacturer. The entire assembly shall be completely isolated from unit and fan board by rubber-in-shear isolation.

The fan shall be statically and dynamically balanced at the factory as a complete fan assembly (fan wheel, ODP motor, drive, and belts). The fan shaft shall not exceed 75 percent of its first critical speed at any cataloged speed. Fan wheels shall be keyed to the fan shaft to prevent slipping. The fan shafts shall be solid steel.

Airflow Orientation Options

A top discharge out of the main unit is standard, opening sizes detailed in the table below. Note that the unit opening is much larger than the standard FC fan opening. Consider a top-mounted plenum to eliminate the need for large transitions. A plenum is ideal for front, back, or side discharges.

Offering

- All insulation on the supply side of the plenum fan box will have perforated liners
- All areas of the roof assembly will be solid sheet-metal lined
- Extended grease lines
- 460V only
- ODP motors only

Disallowables — 90-110 Ton High Capacity

The following options are not allowed:

- No electric heat
- No Constant Volume
- No unit spring isolators
- No 200V or 575V
- No TEFC motor

Note: *Contact Product Support for quote if job has this requirement.*

Application Considerations

Fan application points should be selected within the area bounded by the do not select line (50% Wide Open (WO)) and the max BHP/RPM line (top-most bolded curve). The vertical bolded lines represent the cataloged minimum and maximum airflows. Peak efficiency occurs near 60% WO. Selection points to the left of the do not select line (50% WO) may experience fan instability. To minimize unit connection losses, consider a top-mounted plenum; especially when front, side, or rear connections are needed.

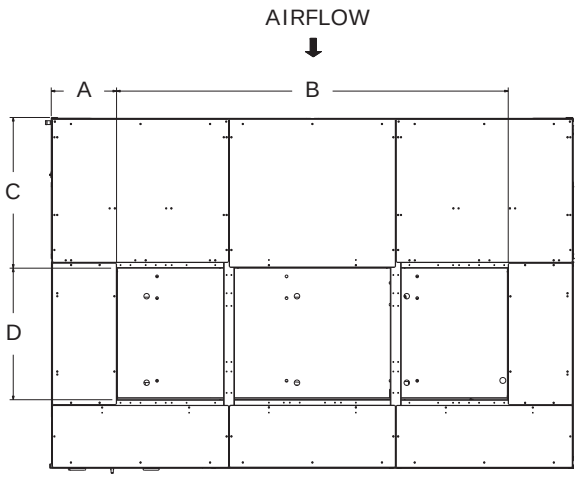
Pricing

To price this design special, select the standard FC fan option with HP equal to plenum fan requirements. Verify the operating point will work for the plenum fan. For additional plenum fan Net Add, please contact CSC Product Support.

Electrical Data

In some instances, the use of the plenum fan may require a different HP than TOPSS outputs. One should consult the catalog electrical data for the new motor selection and adjust the MCA for the unit accordingly (LIC is Used for VFD Electrical Calculations).

Dimensional Data and Weights



TOP VIEW
(VERTICAL DISCHARGE)

Table 1. Dimensions and weight additions

Unit Size	Fan Size	Fan Qty	Weight Add	A	B	C	D
25 Ton	20”	1	339 Lbs	12.2	58.0	24.6	27.5
32 Ton	18”	2	623 Lbs	12.5	70.8	24.7	22.0
38 Ton	18”	2	449 Lbs	12.5	70.8	24.7	22.0
46 Ton	32”	1	814 Lbs	15.2	77.0	34.6	30.2
58 Ton	32”	1	644 Lbs	15.2	77.0	34.6	30.2
72 Ton	25”	2	825 Lbs	15.2	89.7	34.6	30.2
80 Ton	25”	2	825 Lbs	15.2	89.7	34.6	30.2

Fan Curves

For additional fan curves, visit the Hub at https://hub.ingersollrand.com/docs/DOC-130126.

Figure 1. 38 ton fan curve

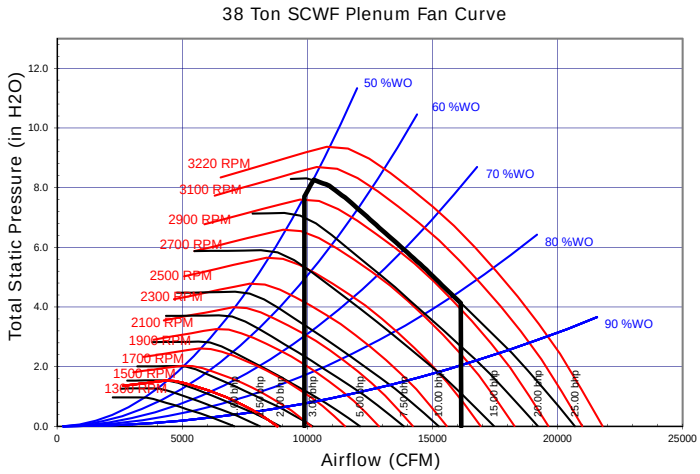


Figure 2. 58 ton fan curve

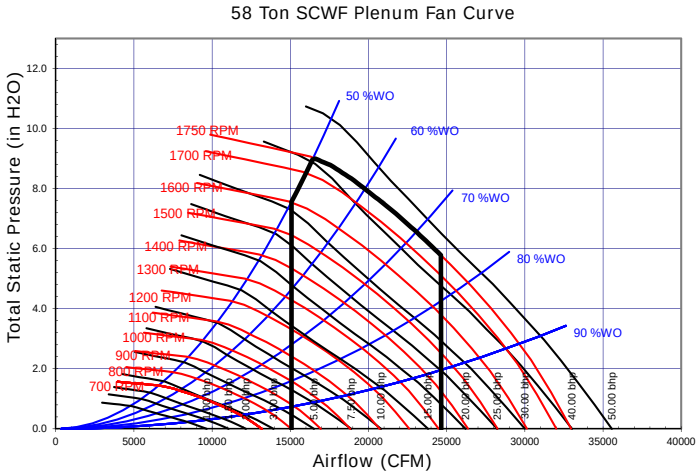


Figure 3. 72 ton fan curve

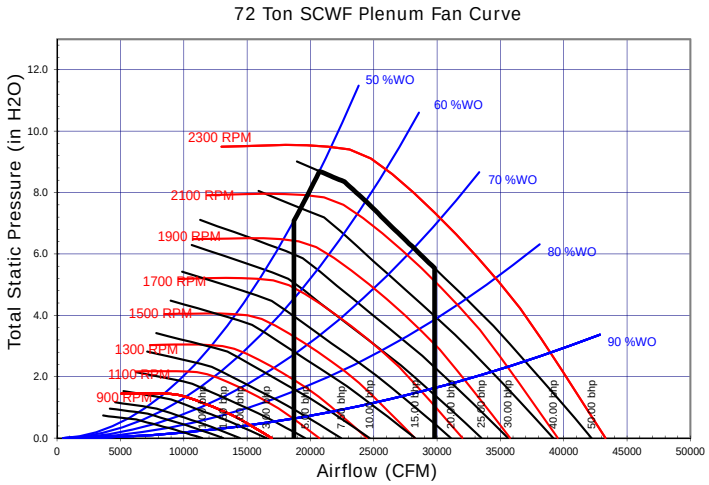


Table 2. Coil/Casing Pressure Drops

Wet Coil Delta P (In H_20)							
25 Ton		**32 Ton**		**38 Ton**		**46 Ton**	
CFM	**Coil PD**	**CFM**	**Coil PD**	**CFM**	**Coil PD**	**CFM**	**Coil PD**
6325	0.20	8700	0.26	9880	0.30	11960	0.29
6500	0.20	9000	0.28	10000	0.30	13000	0.33
7000	0.23	10000	0.33	12000	0.40	15000	0.41
7500	0.26	11000	0.38	14000	0.52	17000	0.50
8000	0.28	12000	0.43	15000	0.57	18500	0.57
8500	0.31	12325	0.45	16150	0.64	19550	0.62
58 Ton		**72 Ton**		**80 Ton**			
CFM	**Coil PD**	**CFM**	**Coil PD**	**CFM**	**Coil PD**		
15080	0.29	19000	0.41	20800	0.71		
17000	0.34	21000	0.48	22000	0.78		
19000	0.41	23000	0.56	24000	0.89		
21000	0.48	25000	0.64	26000	1.01		
23000	0.55	27000	0.72	28000	1.15		
24650	0.61	29800	0.84	29800	1.21		

Note: *Use values from Table 2 with TOPSS TSP for Total Static Pressure for Plenum Fan selection.*

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Supersedes PKG-PRC023A-EN (Apr 2017)