DELAIR

FAN SELECTION SOFTWARE

HELP GUIDE

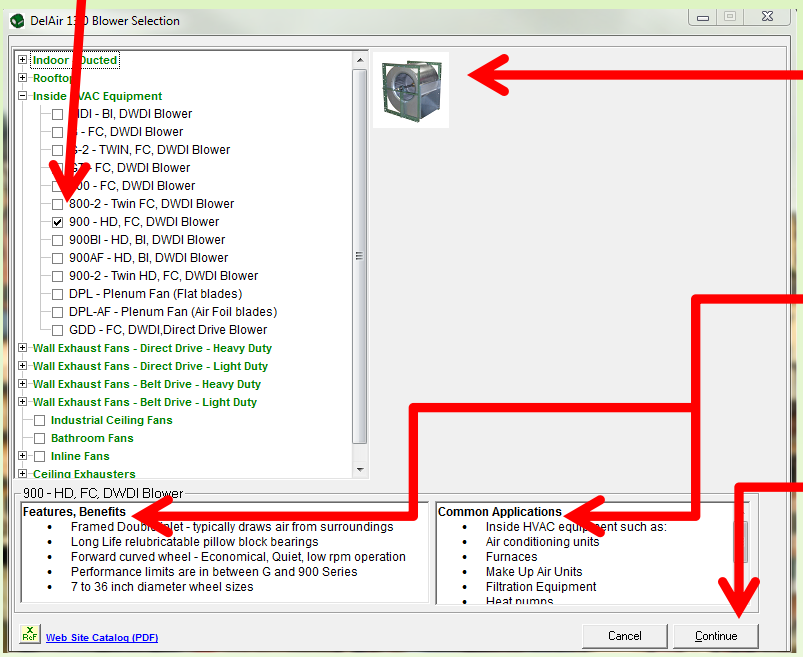
Help

Quick Start

For this tutorial we will suppose you are seeking a forward curved double inlet product for use in an air handler.

To begin a fan selection, click the start button

1. Select the appropriate category, and selected the appropriate model



Note that an image appears, helping you visualize our series names.

Also note the features, benefits, and common applications.

2. Click to continue

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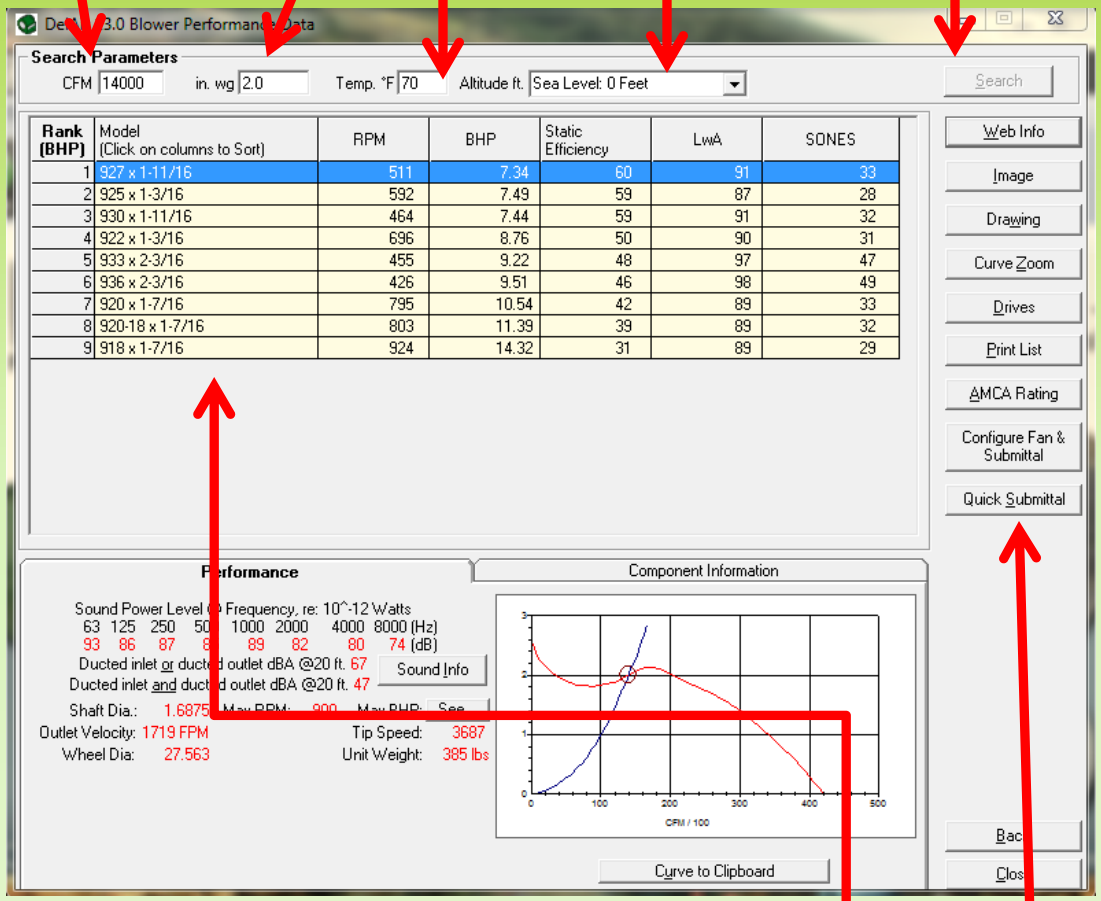
1. Input desired CFM

2. Input desired Static pressure

3. Input desired temperature and altitude if you desire

4. Click search



**After clicking search a number of units will populate *see the above chart.*
Also note the tabs on the right which we will explain further on the next page.**

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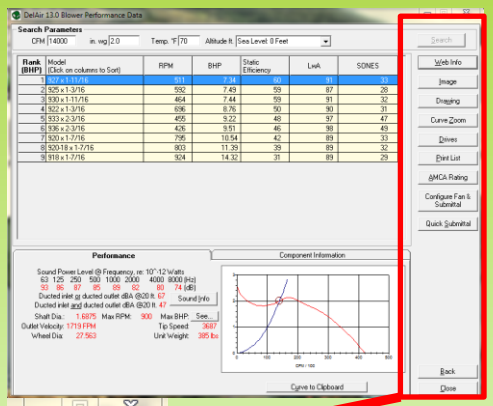
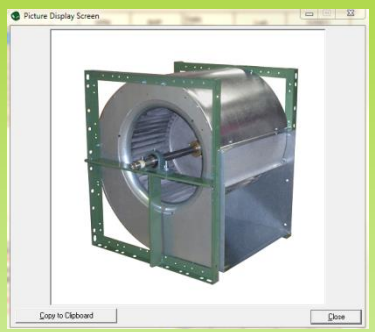
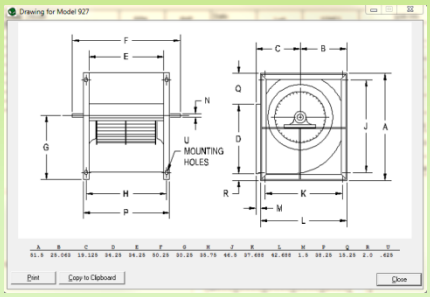
Popular buttons for more info

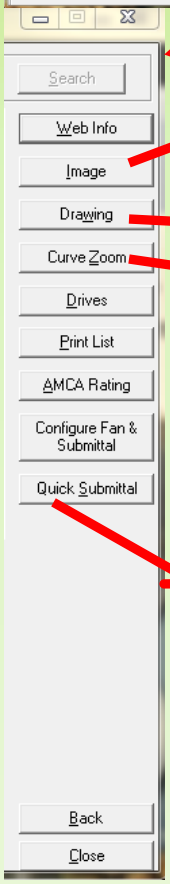


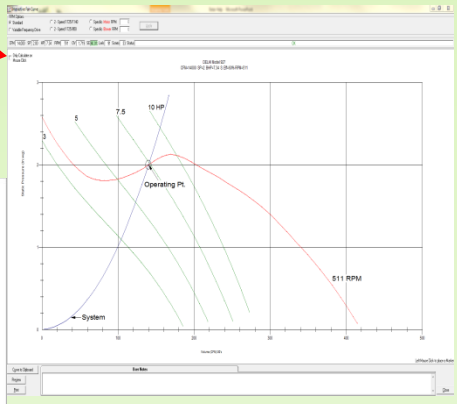


Image

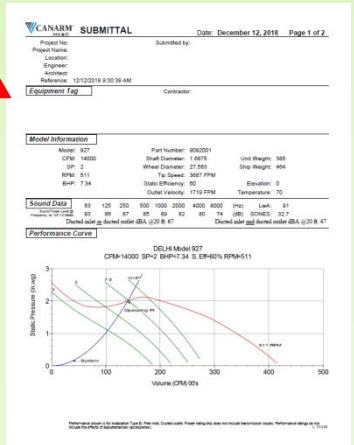


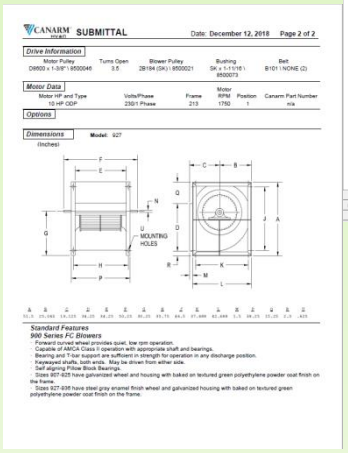
Drawing





Curve zoom is live, it shows the values under the mouse





Detailed two page submittal can be saved as PDF and emailed

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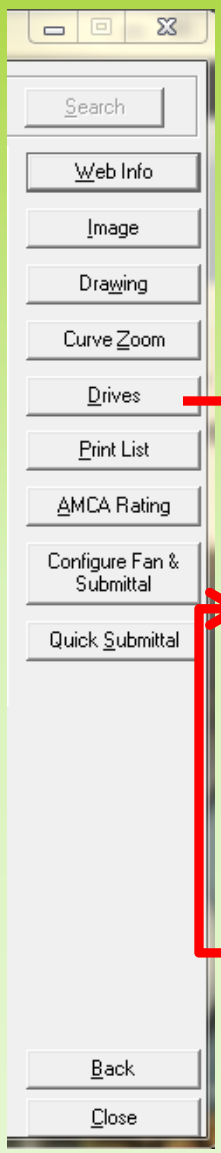
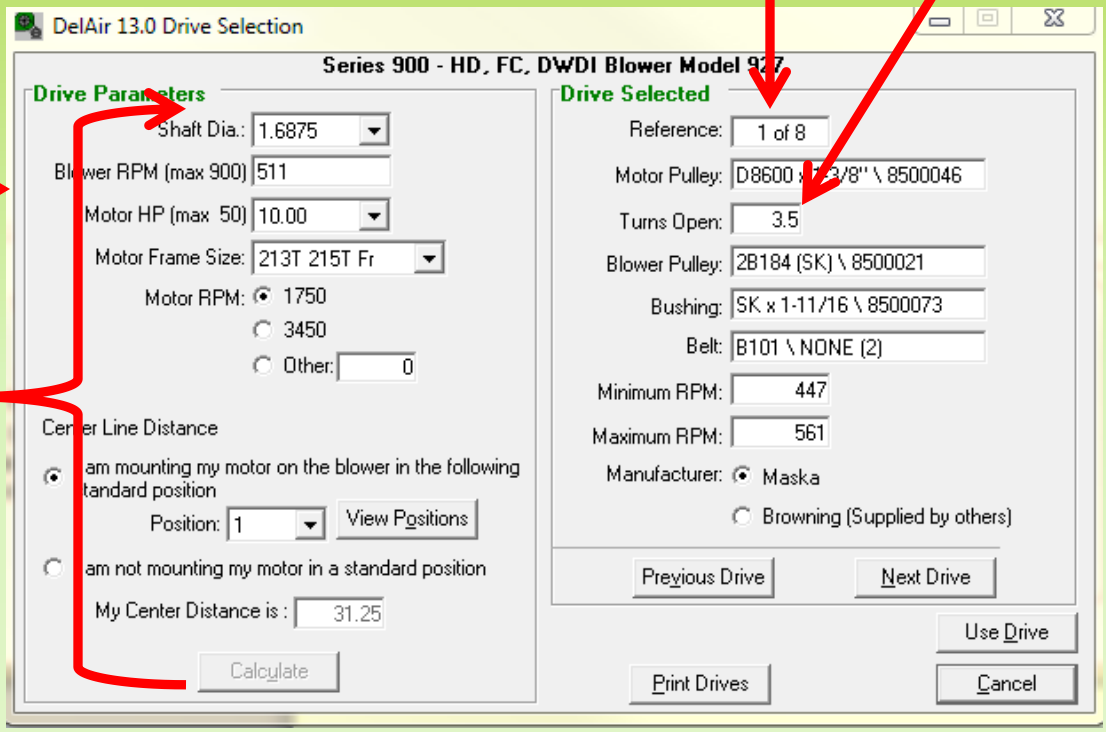
The Drives Button



Drives are automatically selected based on the performance entered previously. It displays how many turns open to provide equal up and down RPM/CFM adjustment, also you can cycle through different drive options. In the below example there are 8 different drive options



Default motor details, as well as default shaft size and motor position can be change by the user if they require.

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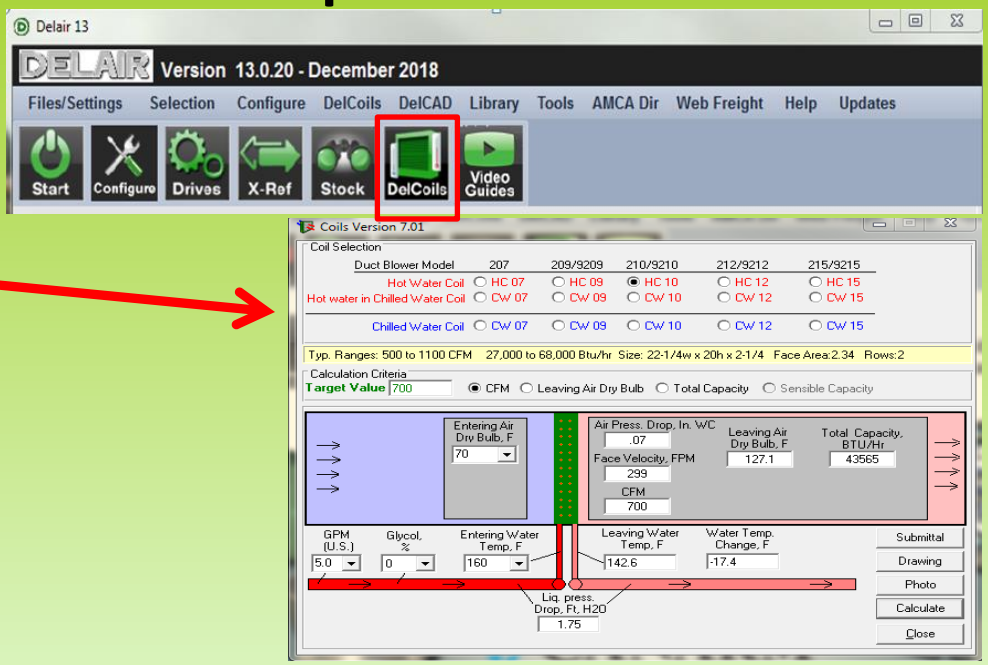
Other Menu Items

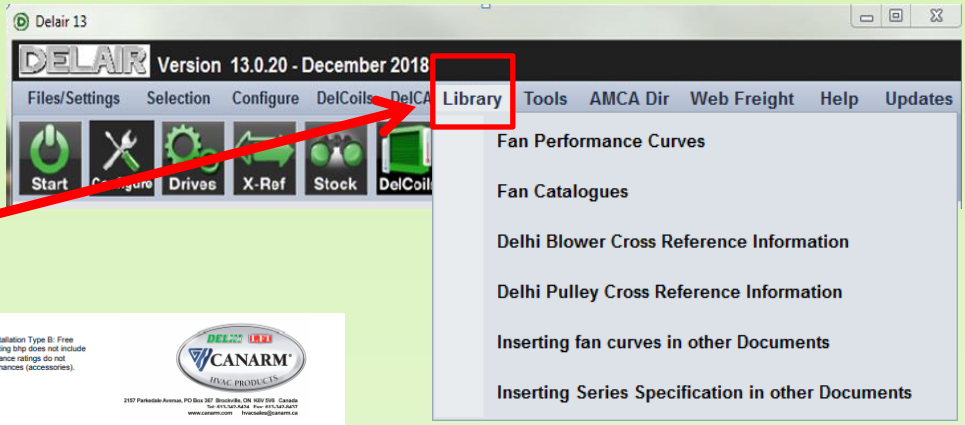
DelCoils

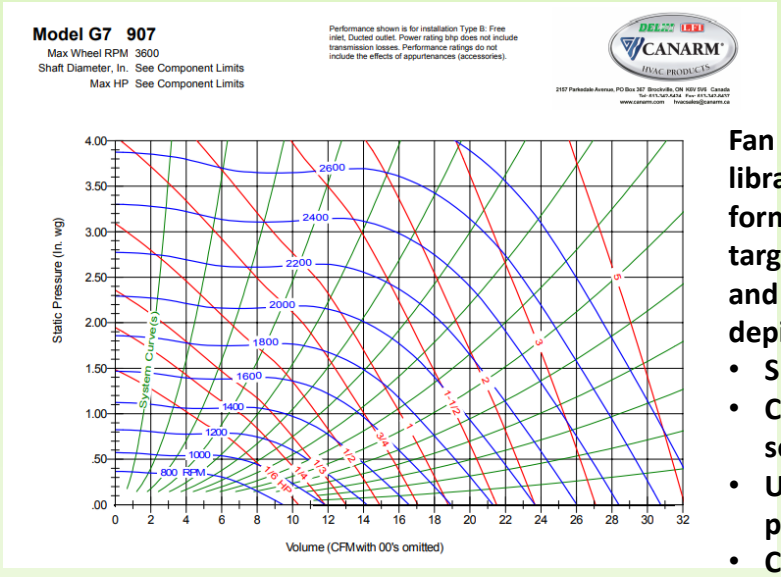
DelCoils is a separate program that opens within Delair. It is used to solely to select hot water and chilled water coils, that physically match to our 200 and 9200 series inline duct blowers. They may also be purchased and used separately without the duct blowers. A convenient graphical interface is provided for your parameters



The Library

The Library offers sub-items. Most of these library choices are self explanatory.





Fan Performance Curves takes you to our library folder of fan performance curves in PDF format. While selection process in Delair targets a particular desired operating point and produces a limited curve with the point depicted these curves.

- **Show the entire suitable operating range**
- **Can be helpful when performing "what if" scenarios**
- **Useful for pinpointing the true operating points based on field reports**
- **Can be included as a separate item in a submittal package for owner reference**

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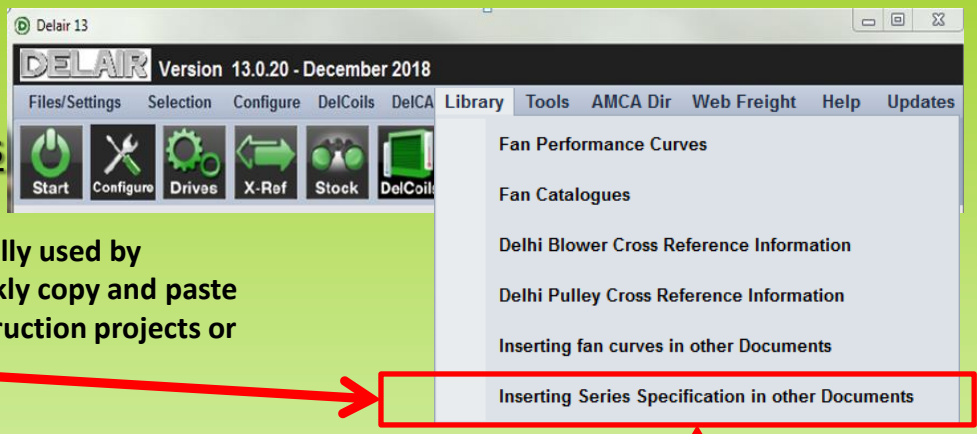
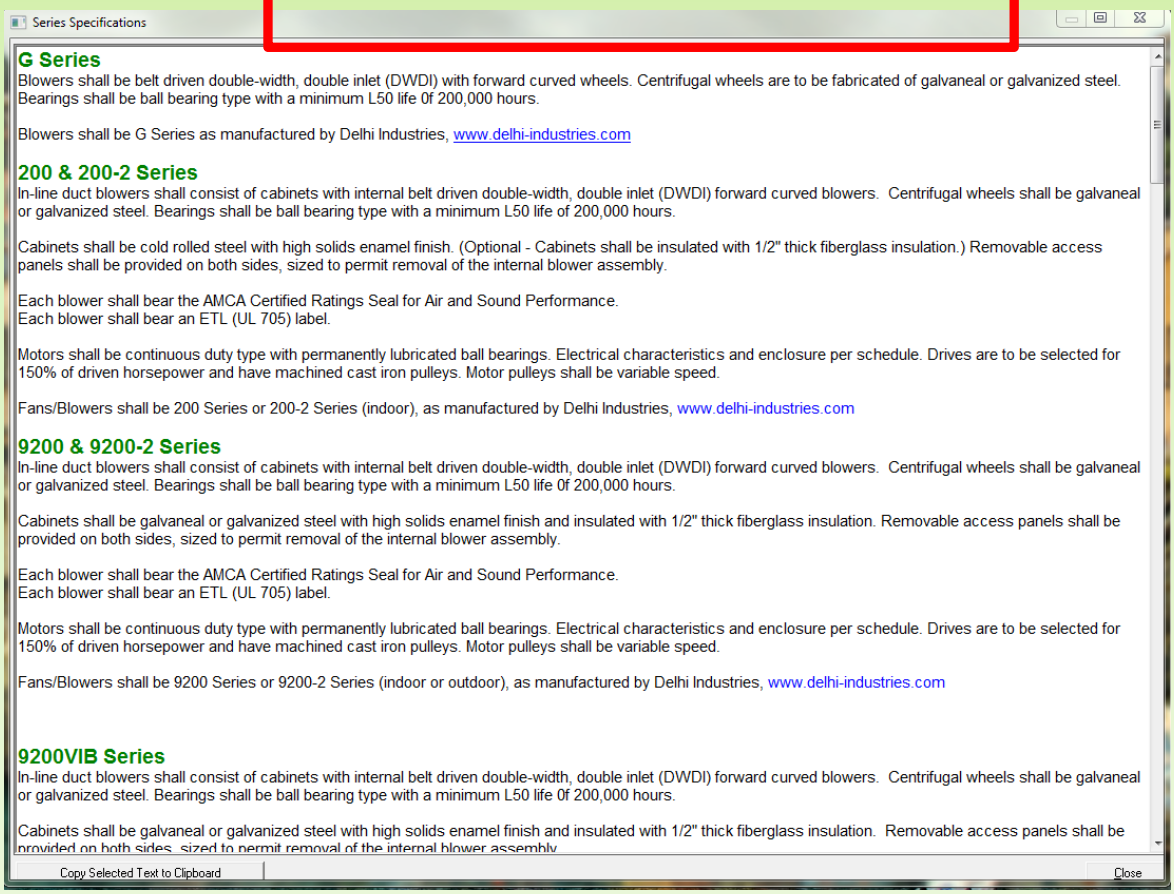
Other Menu Items

Sample Specifications



Sample Specifications are typically used by engineering consultants to quickly copy and paste product specifications for construction projects or custom air handlers.

Clicking opens a window that allows copying.



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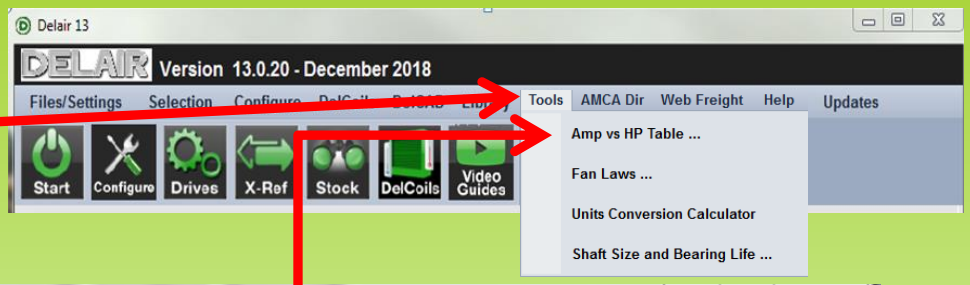
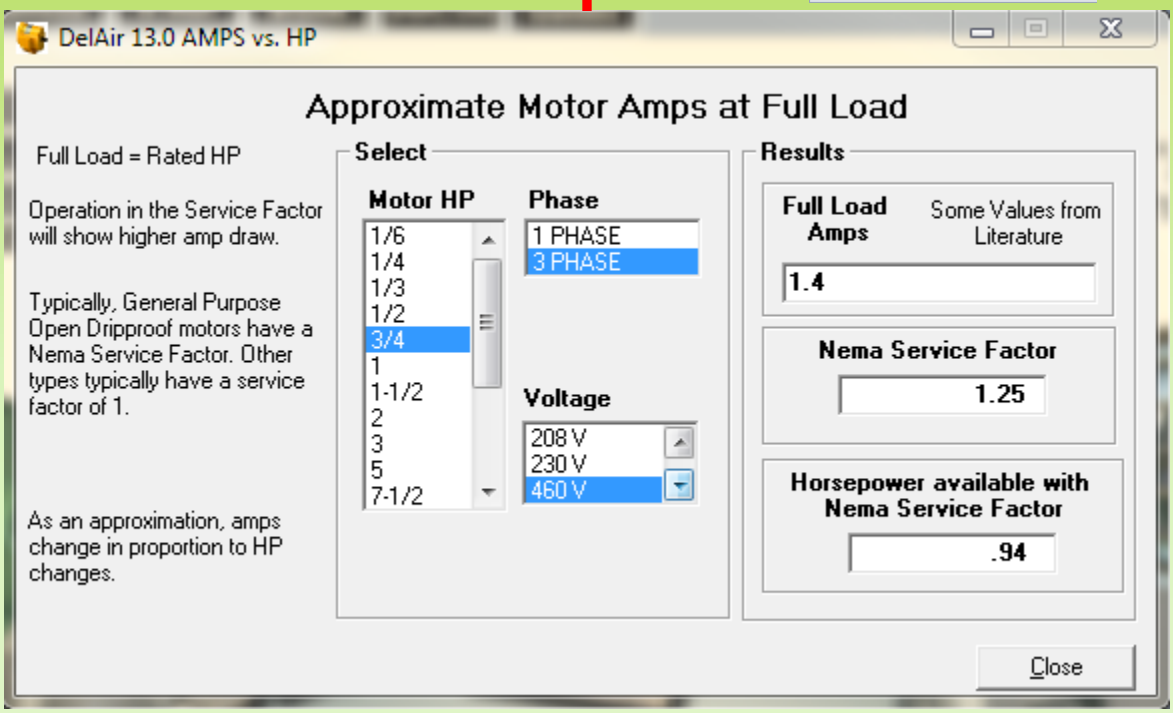
Other Menu Items

Tools

This library offers sub-items





The Primary use of this table is to approximate the BHP (break horse power) of a fan in the field, when you have the field amperage reading but do not have the full load amp rating of the motor. Keep in mind these are approximations and actual field readings can vary.

You can then approximate the BHP delivered by the motor by proportion.

BHP = Motor HP X field amp reading / full load amp rating

This can be very useful when attempting to fin the operating point of a fan in the field, as it will be at the intersection of this BHP on a fan curve and the RPM curve, particularly if they are more perpendicular than parallel.

The intersection with a field measured CFM and field measured static pressure may also be considered but are more subject to error .

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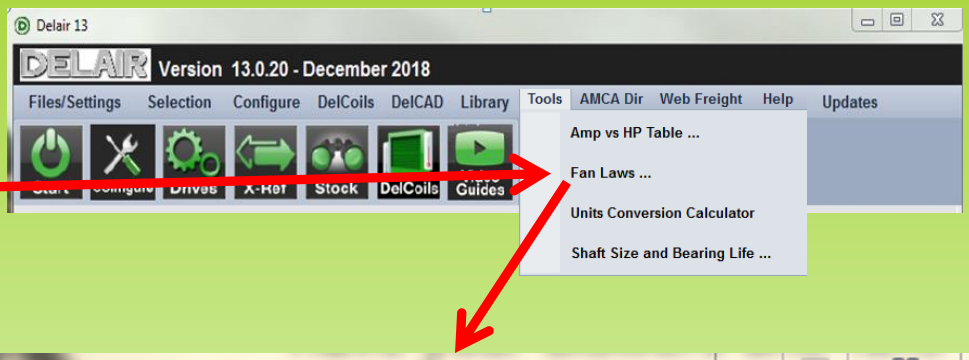
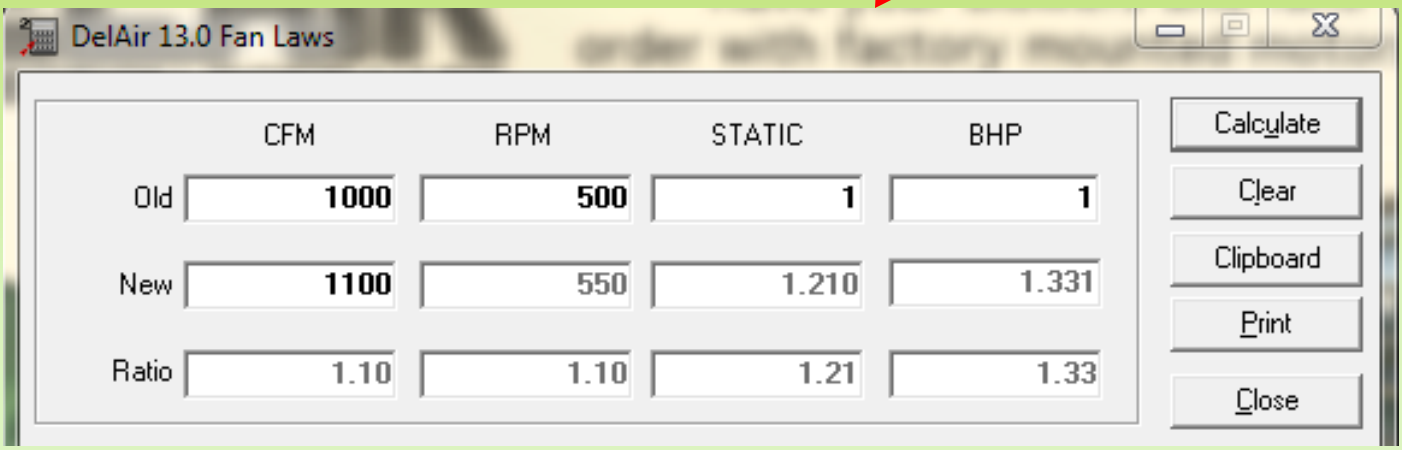
Other Menu Items

Fan Laws Calculator





The fan laws calculator can be valuable when contemplating adjustments to a fan. For instance if a fan was supposed to deliver 1100 CFM but is reported to be delivering 1000 CFM the calculator can be filled in as shown by the bold values. After you click “calculate” the gray values appear and show the RPM mist be raised to 550.

CAUTION: The fan laws only work when the system (coils, filters, ductwork, and so on) is unchanged

If the system is being changed use Delair as if doing a fan selection using the new system CFM and static pressure as the target.

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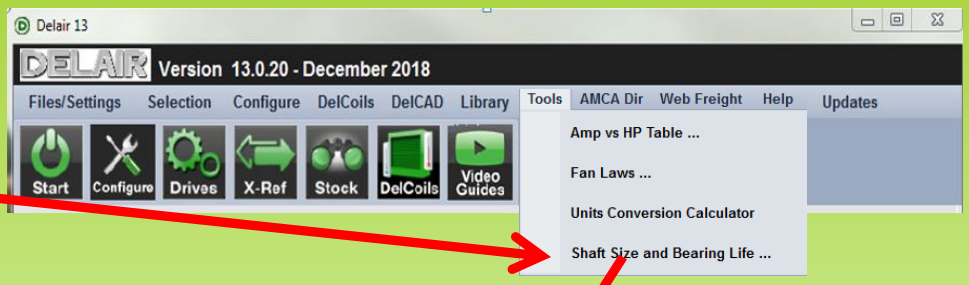
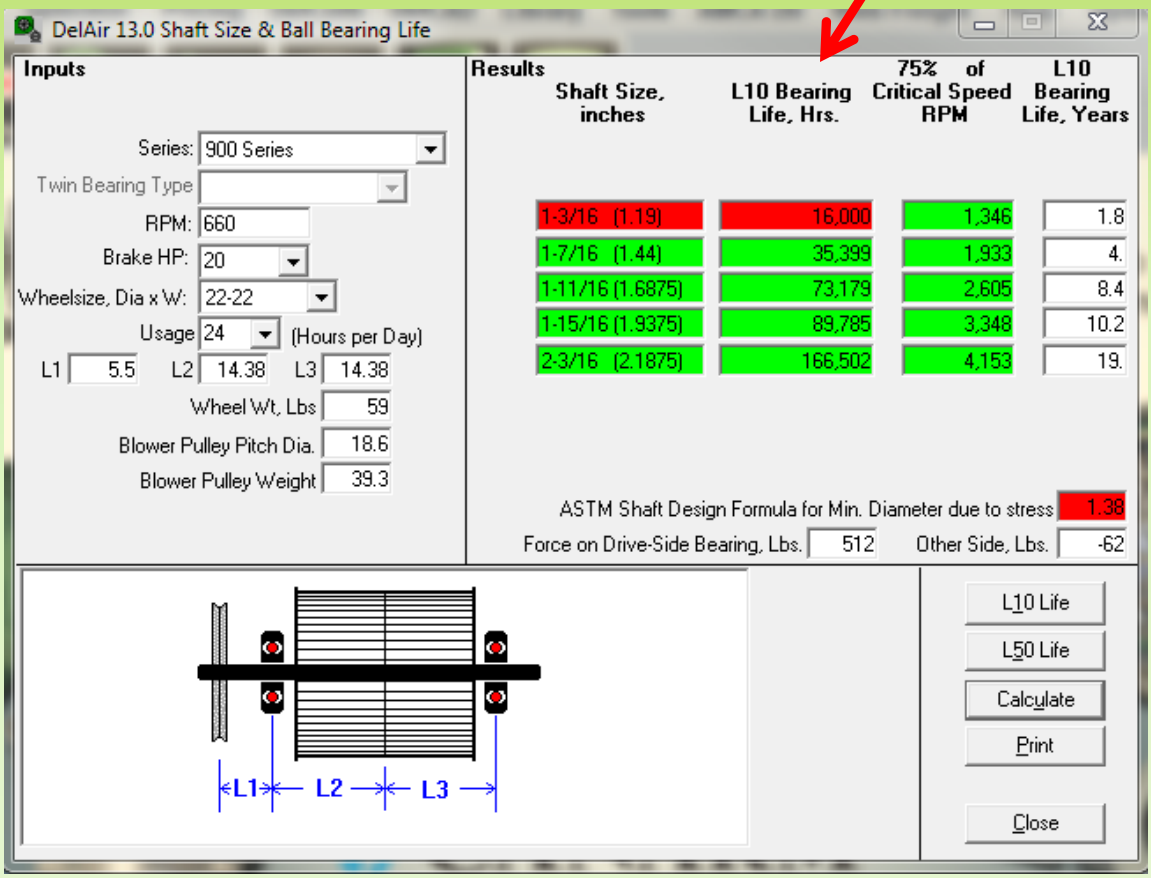
Other Menu Items

Shaft Size and Bearing Life





This calculator is available for DWDI forward curved products, it is most commonly used to confirm conformance with a consultant's specifications, for instance that bearings have a minimum 200 hours "L50" bearing life. The L50 life is a statistical value reflecting the number of hours before 50% of bearings in a large group of bearings will begin to degrade. L10 life is often cited as well and reflects the time until 10% will have begun to degrade.

Selections made with Delair at the most stressful operatting points are assured to have an L 10 of at least 30,000 hours (L50 life of 150,000 hours). Blowers are usually not selected at their operating limits thus the L50 life is almost invariably well over 200,000 hours.

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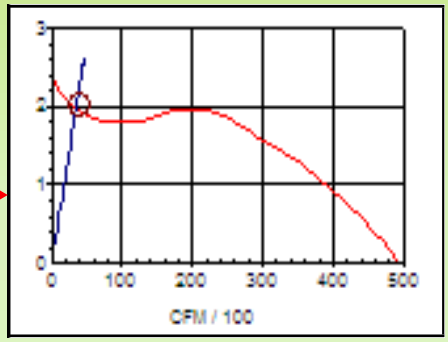
Help

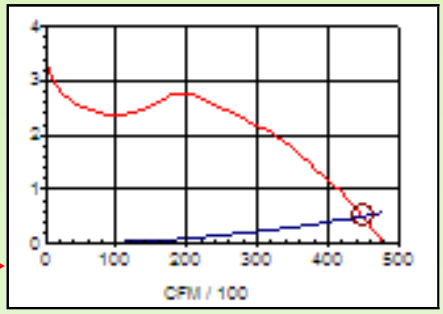
How do I decide which size fan is best?

Typically there are several sizes that can deliver the CFM requirements against the static pressure. Delair presents a list of candidates in order of ascending BHP. Within a series only those that have exceeded the fan's horsepower or wheel RPM limit are not displayed. Deciding which is really best for your application requires that you examine them by considering:

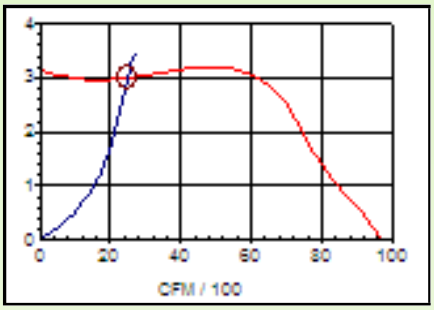
- **Will it fit into the space available?**
- **Is it too costly? (naturally biggest cost more to buy, but often lowers operating costs)**
- **Is it too noisy?**
- **Is the operating point too near shut-off? If it is very close to the left vertical axis on the curve results may not be as expected and efficiency is low.**



- **Is the operating point too far to wide-open, the right side of the curve? There is a tendency toward inefficiency and noise in that area.**



- **If the operating point is in the "dip" area of the curve, and it is to be submitted to a consultant, will they approve? (we do not restrict selection in that region with our forward curved products. Operation is stable in HVAC systems.**



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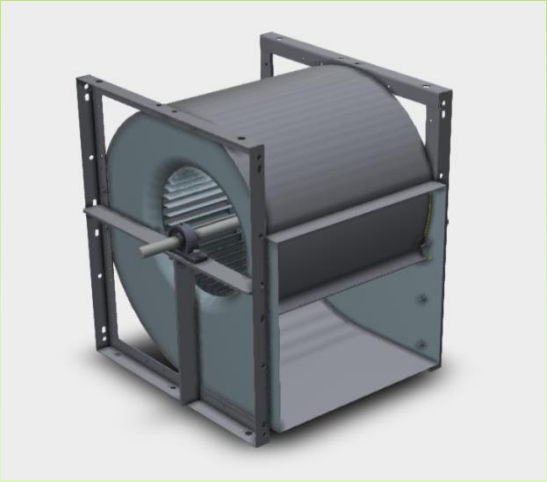
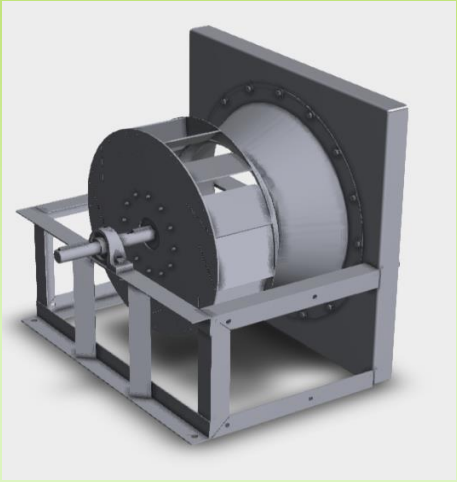
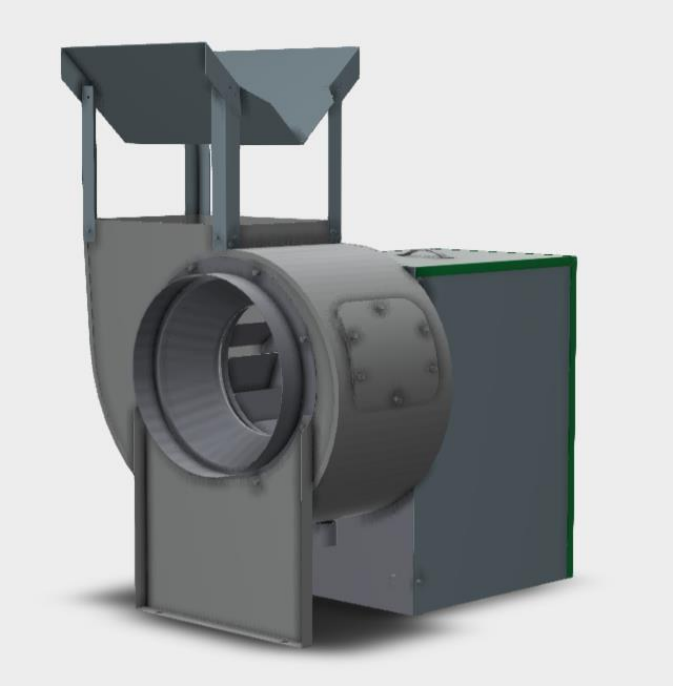
How do I get solid model files of fans and blowers ?

Contact our Technical sales department at hvacsale@canarm.ca and we will do our best to help you out.







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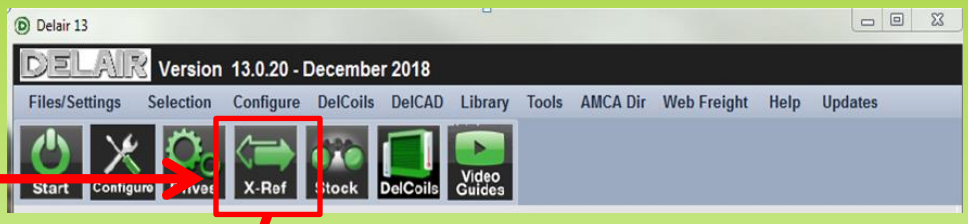
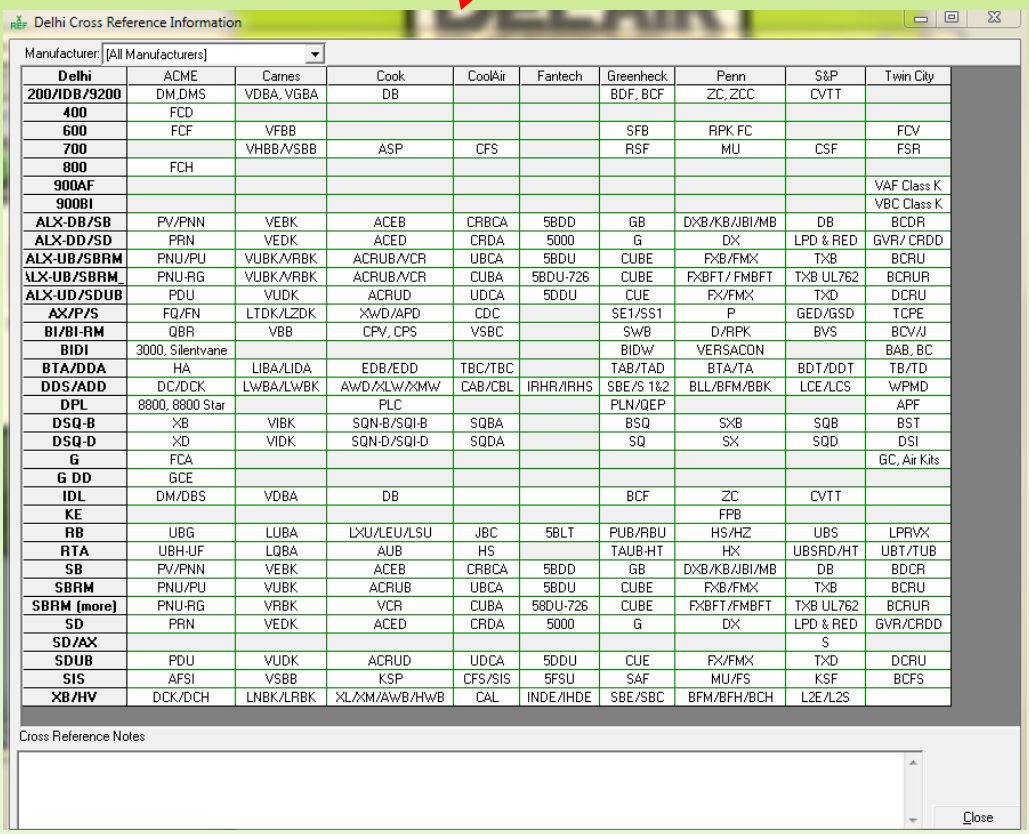
Help

How do I cross reference other manufacturers fans?

Click the cross reference button





Delhi	ACME	Carnes	Cook	CoolAir	Fantech	Greenheck	Penn	S&P	Twin City
200/IDB/9200	DM,DMS	VDBA, VGBA	DB			BDF, BCF	ZC, ZCC	CVTT	
400	FCD								
600	FCF	VFBB				SFB	RPK FC		FCV
700		VHBB/VSBB	ASP	CFS		RSF	MU	CSF	FSR
800	FCH								
900AF									VAF Class K
900BI									VBC Class K
ALX-DB/SB	PV/PNN	VEBK	ACEB	CRBCA	5BDD	GB	DXB/KB/JBI/MB	DB	BCDR
ALX-DD/SD	PRN	VEDK	ACED	CRDA	5000	G	DX	LPD & RED	GVR/ CRDD
ALX-UB/SBRM	PNU/PU	VUBK/VRBK	ACRUB/VCR	UBCA	5BDU	CUBE	FXB/FMX	TXB	BCRU
ALX-UB/SBRM_	PNU-RG	VUBK/VRBK	ACRUB/VCR	CUBA	5BDU-726	CUBE	FXBFT/ FMBFT	TXB UL762	BCRUR
ALX-UD/SDUB	PDU	VUDK	ACRUD	UDCA	5DDU	CUE	FX/FMX	TXD	DCRU
AX/P/S	FQ/FN	LTDK/LZDK	XWD/APD	CDC		SE1/SS1	P	GED/GSD	TCPE
BI/BI-RM	QBR	VBB	CPV, CPS	VSBC		SWB	D/RPK	BVS	BCV/J
BIDI	3000, Silentvane					BIDW	VERSACON		BAB, BC
BTA/DDA	HA	LIBA/LIDA	EDB/EDD	TBC/TBC		TAB/TAD	BTA/TA	BDT/DDT	TB/TD
DDS/ADD	DC/DCK	LWBA/LWBK	AWD/XLW/XMW	CAB/CBL	IRHR/IRHS	SBE/S 1&2	BLL/BFM/BBK	LCE/LCS	WPMD
DPL	8800, 8800 Star		PLC			PLN/QEP			APF
DSQ-B	XB	VIBK	SQN-B/SQI-B	SQBA		BSQ	SXB	SQB	BST
DSQ-D	XD	VIDK	SQN-D/SQI-D	SQDA		SQ	SX	SQD	DSI
G	FCA								GC, Air Kits
G DD	GCE								
IDL	DM/DBS	VDBA	DB			BCF	ZC	CVTT	
KE							FPB		
RB	UBG	LUBA	LXU/LEU/LSU	JBC	5BLT	PUB/RBU	HS/HZ	UBS	LPRVX
RTA	UBH-UF	LQBA	AUB	HS		TAUB-HT	HX	UBSRD/HT	UBT/TUB
SB	PV/PNN	VEBK	ACEB	CRBCA	5BDD	GB	DXB/KB/JBI/MB	DB	BDCR
SBRM	PNU/PU	VUBK	ACRUB	UBCA	5BDU	CUBE	FXB/FMX	TXB	BCRU
SBRM (more)	PNU-RG	VRBK	VCR	CUBA	58DU-726	CUBE	FXBFT/FMBFT	TXB UL762	BCRUR
SD	PRN	VEDK	ACED	CRDA	5000	G	DX	LPD & RED	GVR/CRDD
SD/AX								S	
SDUB	PDU	VUDK	ACRUD	UDCA	5DDU	CUE	FX/FMX	TXD	DCRU
SIS	AFSI	VSBB	KSP	CFS/SIS	5FSU	SAF	MU/FS	KSF	BCFS
XB/HV	DCK/DCH	LNBK/LRBK	XL/XM/AWB/HWB	CAL	INDE/IHDE	SBE/SBC	BFM/BFH/BCH	L2E/L2S	

The above is the cross reference chart which allows you to cross competitors products over to ours.

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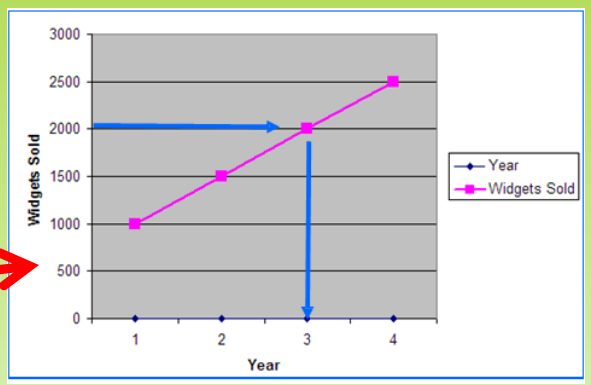
Help

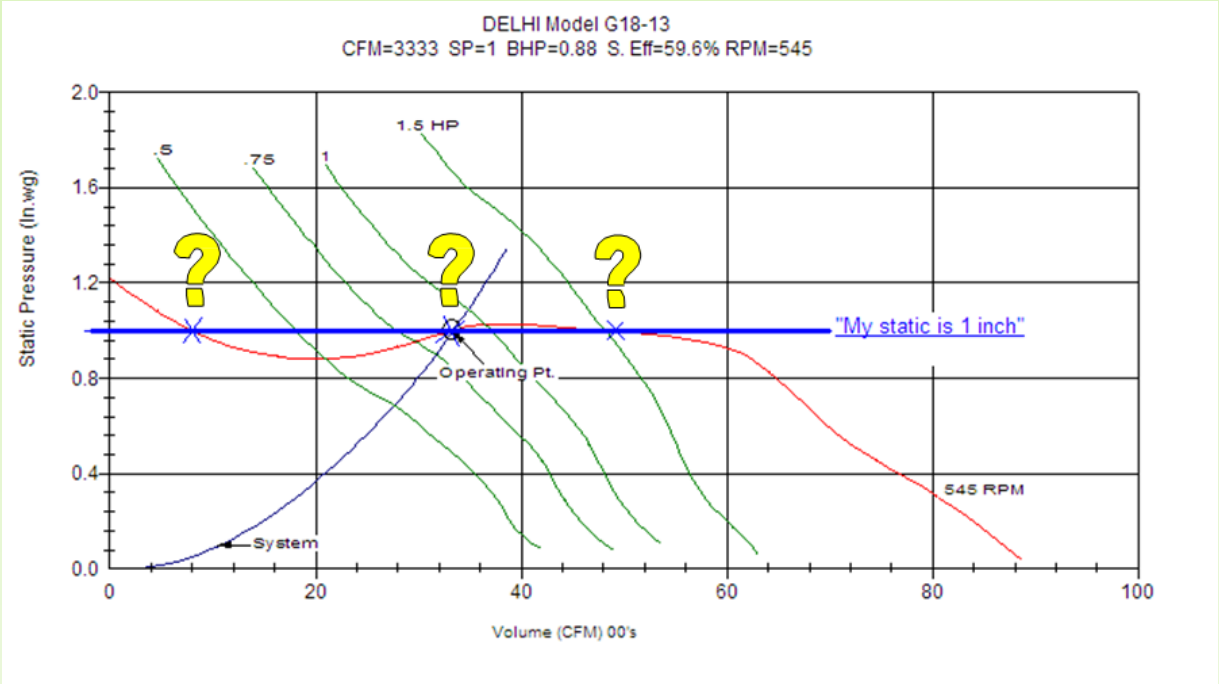
You Fan RPM curve rises and falls my static pressure crosses it several times. How do I know which CFM I will get?

Fan curves are different from, say a curve of sales versus time. If asked "when did we achieve sales of 2000 widgets?" you would locate the intersection of 2000 with the curve and find 3 years is the answer.



With a blower curve it is important to remember that the static pressure in a system is always zero when the CFM is zero and increases as the CFM increases, and does so in a parabolic fashion almost always. One should always be referencing a CFM when citing a static: "I expect 1 inch of static at 3333 CFM."

To think of it as a constant, as portrayed below by the bold blue horizontal like, leads to the false belief that there can be multiple operating points. In fact the fan/blower will operate at the intersection of the curve labeled "system: and the RPM curve



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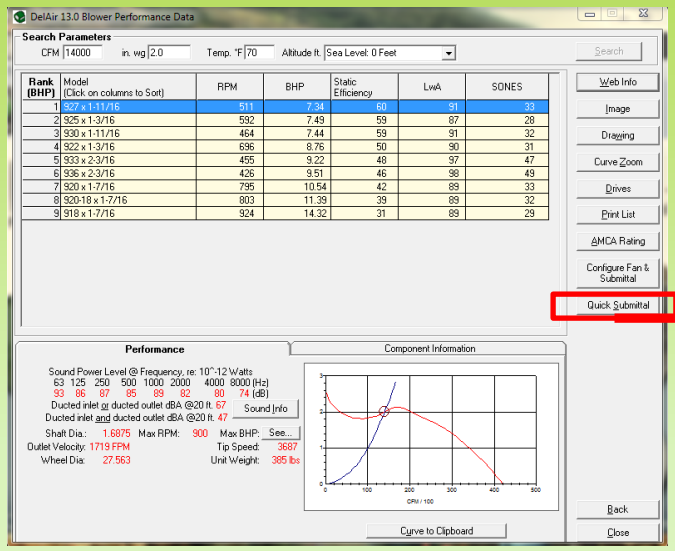
How do I create a PDF of my submittal so I can send a sharp copy to my customer via email?



Click quick submittal , then click preview, and then click save as PDF.