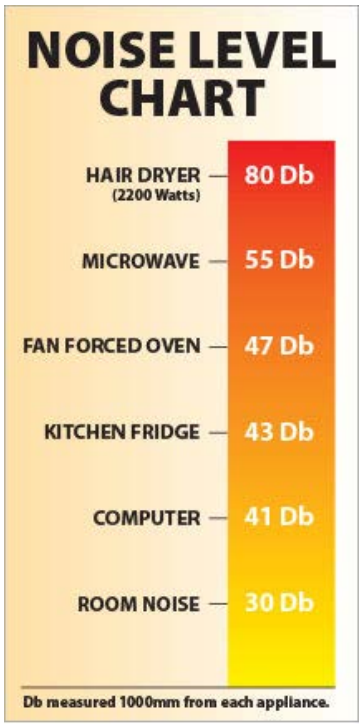
QUIET FAN INFORMATION

Basic rundown.
Nearly all glass door fridges these days still have loud high RPM (Revs Per Minute) fans in them as they are still being manufactured and imported under 'commercial specification'. It is because it is all we have ever really known (factories included). But, in the last 15 years the glass door refrigeration market has changed a lot, domestic use indoors and also in alfresco area's is booming. With large RPM levels comes higher noise (Db), definitely this is needed when units are in a pub/club environment as it helps with more rapid chill down times, dispursement of hot air and also a more even 'full cabinet' air temp control. But in a home application where there is no need for this rapid air movement we can get away with less RPM, meaning making units quieter. ***More RPM often means more Db (Noise Level)***

It's a fact that when we started in this market in 2005 the question most customers asked and biggest complaint is all to do with noise levels, so we have decided to combat this front on and do it properly, finding a medium between performance and noise.

We constructed a test room at our Ballarat warehouse, costing over 50K, which allows us to test units in ANY temp, ANY Humidity and with different combinations of interior and exterior fans, making sure units still function with the changed air flow conditions.



What we have found has been interesting, most units don't really require the industrial fans when being used in home applications (low usage, low ambient temperatures). We can also supply 'quiet fans' in a commercial applications.

Noise Levels (Dba)
Everyone's perception of noise is different, and the Decibel Rating System (Db) is pretty confusing, the SCALE goes up pretty dramatically at certain points. If you look at chart to the right you will see some basic household appliance noise levels, it helps to put it all into perspective. Funny to note that 30Db is basic room noise, this is standing in a room with nothing turned on or any noise at all.

Performance
Of course by altering this 'working aspect' of a fridge operation, there are going to be gives and takes. Where we reduce noise levels, it means that units take a 'little' longer to come down because of less air flow inside the unit. Drinks will generally be about 0.5oC > 1oC warmer (in most cases, less in most other), and mostly only along the front part of fridge.

There are minimal options for alfresco use, this is because with ambient temperatures getting to 40oC+ we cannot afford to minimize the air flow too much from Std. So where a 55Db was STD, we can't go any lower than around a 39-43Db fan reduction. If units are indoors we can drop the fan model to 30Db or under, really making an impact on noise levels.

*It needs to be noted, importantly, that the actual main motor of the fridge, the compressor will always have noise, this noise level can vary from model to model between 39>55Db, so you must know that altering a fan level from 55Db to 39Db doesn't necessarily alter the 'whole fridge' to 39Db.
*We are currently working on a 'compressor noise reduction material', and expect to have results about October 2017

Indoor Use
This is where we can always do quiet fans, being indoors in controlled environment and not over 25oC means units chill quicker and cycle easier, adding quiet fans hardly affects the unit at all.

About The Fans
We currently are using 2 of the best brands on the World market, coming from Germany (EBM brand) and Austria (NOCTUA brand). You are actually getting a quality 'upgrade' on the fans in units from the original fan in most cases.

Most of these are purchased direct from EBM in Germany and our Austrian supplier via their Taiwanese manufacturing plant.

Models Available For Upgrade
Currently most models have quiet fan upgrades available. With each change we need to know exact application so we can advise properly. See my fan guide sheet following that explains all models and fan options.

Summary
Take the time to really take in this information, no one else offers this kind of service, it is reliable and based on facts and proper testing. Having a proper test room is a real advantage for us, we don't have to 'Guess' anything with these fan changes and operation and we can also make sure the factories are staying true to claims in other areas. The fan testing showed us a lot in regards to fridge performance with less RPM and also the difference if ambient temps were higher.

Fan converting info for indoor and outdoor use.

Updated 1 June 2019

***Note:** **Web listings have an 'overall Db rating', combining inner/outer fans and compressor, below is just actual fan Db.**

	Fan Info Current		Recommended Quiet Indoor Upgrade			Recommended Quiet Outdoor Upgrade		
Model	Current Fan Interior	Current Fan Exterior	Inner Fan Indoors	Exterior Fan Indoors	Cost	Inner fan Outdoors	Exterior Fan Outdoors	Cost
GSP1	ACI4420-H (39Db)	ACI4420-H (39Db)	EBM 4856-Z (29Db)	EBM 4856-Z (29Db)	$190.00	No upgrade needed	No upgrade needed	$0.00
GSP2	ACI4420-H (39Db)	EBM ICQ-3608 (55Db)	EBM 4856-Z (29Db)	OWL Fan Blade (47Db)	$190.00	No upgrade needed	OWL Fan Blade (47Db)	$75.00
GSP3	ACI4420-H (39Db) x 2	EBM ICQ-3608 (55Db)	EBM 4856-Z (29Db) x 2	OWL Fan Blade (47Db)	$265.00	No upgrade needed	OWL Fan Blade (47Db)	$75.00
ENV1	Noctua 14PW (29Db)	Ebm 2 x Speed (55 / 43)	No upgrade needed	Low Speed Setting	$0.00	No upgrade needed	Low Speed Setting	$0.00
ENV2	Noctua 14PW (29Db)	Ebm 2 x Speed (55 / 43)	No upgrade needed	Low Speed Setting	$0.00	No upgrade needed	Low Speed Setting	$0.00
ENV3	Noctua 14PW (29Db)	Ebm 2 x Speed (55 / 43)	No upgrade needed	Low Speed Setting	$0.00	No upgrade needed	Low Speed Setting	$0.00
SG0	ACI4420-H (39Db)	ACI4420-H (39Db)	EBM 4856-Z (29Db)	EBM 4856-Z (29Db)	$190.00	EBM 4856-Z (29Db)	ACI4420-H (39Db)	$190.00
SG1	ACI4420-H (39Db)	ACI4420-H (39Db)	EBM 4856-Z (29Db)	EBM 4856-Z (29Db)	$190.00	EBM 4856-Z (29Db)	ACI4420-H (39Db)	$190.00
SG2	ACI4420-H (39Db)	EBM Std (55Db)	EBM 4856-Z (29Db)	OWL Fan Blade (44Db)	$190.00	No upgrade needed	OWL Fan Blade (44Db)	$75.00
SG3	ACI4420-H (39Db) x 2	EBM Std (55Db)	EBM 4856-Z (29Db) x 2	OWL Fan Blade (44Db)	$265.00	No upgrade needed	OWL Fan Blade (44Db)	$75.00
SK118	Huitong (45Db)	Huitong (55Db)	EBM 4856-Z (29Db)	EBM 4856-Z (29Db)	$190.00	ACI4420-H (39Db)	ACI4420-H (39Db)	$190.00
SK190	Huitong (45Db)	Huitong (55Db)	EBM 4856-Z (29Db)	OWL Fan Blade (47Db)	$190.00	ACI4420-H (39Db)	OWL Fan Blade (44Db)	$190.00
JC190-GG	Noctua PPC2000 x 2	Noctua PPC2000	NF-S12B Redux x 2	NF-S12B Redux	$190.00	N/A	NF-S12B Redux	$75.00
JC173-SG	Noctua PPC2000 x 2	Noctua PPC2000	NF-S12B Redux x 2	NF-S12B Redux	$190.00	N/A	NF-S12B Redux	$75.00
EX-108	HUITONG (47Db)	N/A	4856-Z (29Db)	N/A	$90.00	ACI4420-H (39Db)	N/A	$90.00
SGT1	ACI4420-H (39Db)	IQC3608-050106/A01	4856-Z (29Db)	Change to Speed 1	$90.00	N/A	Change to Speed 1	$0.00
SGT2	ACI4420-H (39Db) x 2	IQC3608-050106/A01	EBM 4856-Z (29Db) x 2	Change to Speed 1	$190.00	N/A	Change to Speed 1	$0.00

*Note: These upgrades are mostly with German EBM and Austrian Noctua fans, with up to 3 times life cycle of most fans on market.
*Note: By changing to quiet fans you can lose a little in cabinet 'eveness of temperature', and cabinets may take longer to come down in temp.

Quiet upgrades not needed

SK101 Models	**Already have Noctua fans, quietest fans on market.**
SK151 Models	
JC95 Models	
JC132 Models	
JC165	
JC430 Models	
HUS-SC23	**Now with 12V Fans, quiet already**
HUS-SC35	
HUS-SC50-SS	
HUS-SC70-SS	
HUS-SC88-SS	
DW-J85	
RND330B	
SS-P160FA	
SK135	

No options for these units

SK-BR88, SK-BR86, SK-BR9C, DW-SD50