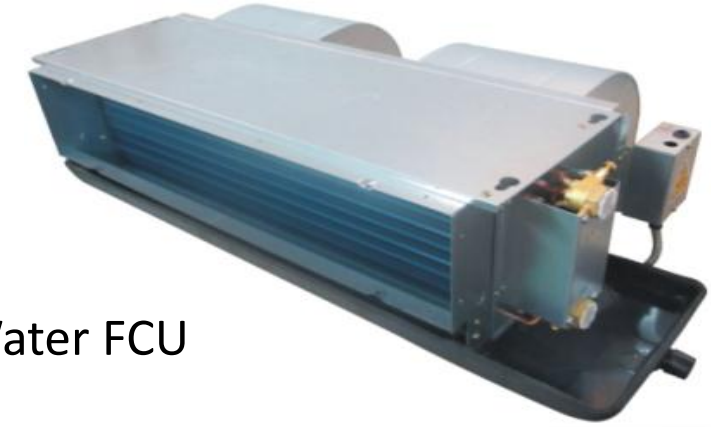
New HFCF



Horizontal Concealed Chilled Water FCU

Airflow Range: 200-1400 cfm

Aug, 2013

Contents

- **New HFCF vs. Old HFCF**
  - Basic Offering;
  - Value-add Options
  - More Compact!
  - Better Performance!
  - More Convenient for Installation & Service!
  - Better Pricing Competitive!
  - Competition (vs. Competitors)
  - Installment Difference
- **Competition & Selling Point**
- **Support Contact**

Redesign Based On Broad VOCs and Benchmark

Basic Offering

New

Digits 1-4 Unit Type
- H Horizontal
- F Fan Coil Unit
- C Concealed
- F Platform Version

Digits 5-6 Size--Nominal CFM
- 02 200 CFM
- 03 300 CFM
- 04 400 CFM
- 05 500 CFM
- 06 600 CFM
- 08 800 CFM
- 10 1000 CFM
- 12 1200 CFM
- 14 1400 CFM

Digit 7 Connection Side
- L Left Hand Connection
- R Right Hand Connection

Digit 8 Coil Rows
- 2 2 rows
- 3 3 rows
- 4 4 rows
- A 2+1 rows
- B 3+1 rows
- C 3 rows (EarthWise)
- D 4 rows (EarthWise)
- E 3+1 rows (EarthWise)

Dedicated for Large Delta T Use

Current

Digit 1: H = Horizontal

Digit 2: F = Fan Coil Unit type

Digit 3: C = Concealed

Digit 4: F = Platform version

Digit 5, 6: Size / Nominal Airflow
- 02 = 200 CFM
- 03 = 300 CFM
- 04 = 400 CFM
- 05 = 500 CFM
- 06 = 600 CFM
- 08 = 800 CFM
- 10 = 1000 CFM
- 12 = 1200 CFM
- 14 = 1400 CFM

Digit 7: Connection Side
- L = Left Connection
- R = Right Connection

Digit 8: Coil Rows
- 2 = 2 Rows Cooling
- 3 = 3 Rows Cooling
- 4 = 4 Rows Cooling
- A = 2 Rows Cooling, 1 Row Heating
- B = 3 Rows Cooling, 1 Row Heating

Airflow & Model Size Unchanged

Basic Offering

New		Current	
Digit 9	Electric Heater	Digit 9:	Electric Heater (Size)
	0 No Electric Heater		N = None
	1 With Electric Heater (w/ Relay in Terminal Box)		A = 0.5 kW Heater (02)
	2 With Electric Heater (w/o Relay in Terminal Box)		B = 1.0 kW Heater (03)
			C = 1.4 kW Heater (04)
			D = 1.6 kW Heater (05)
			E = 1.8 kW Heater (06)
			F = 2.8 kW Heater (08)
			G = 3.2 kW Heater (10)
			H = 3.6 kW Heater (12)
			J = 4.6 kW Heater (14)
Digit 10	Motor Type	Digit 10:	Motor Type
	1 PSC Motor-ESP 12Pa		N = Normal 12pa
	3 PSC Motor-ESP 30Pa		H = High Static 50pa
	5 PSC Motor-ESP 50Pa		A = DCBL Normal (w/ LCD Thermostat)
			B = DCBL High Static (w/ LCD Thermostat)
			~~C = Hermetic Motor Normal Type~~
			~~D = Hermetic Motor High Static Type~~
Digit 11	Voltage/Hertz/Phase	Digit 11:	Voltage/Hz/Phase
	1 220-240VAC/50Hz/1Phase		1 = 220/50/1
	2 220-240VAC/60Hz/1Phase		2 = 220~240/60/1
	3 115VAC/60Hz/1Phase		3 = 115/60/1

Auto Match

New !

Listed Separately, Not New HFCF Scope [1]

Removed

[1]Note: DCBL would continue using current platform until upgrade is done.

Mid ESP (30pa) Motor Added for Better Fit

Basic Offering

New

Digit 12 Valve
- 0 None
- A 2-way Valve (2-pipe)
- B 3-way Valve (2-pipe)
- C Two 2-way Valves (4-pipe)

Digit 13 CONTROL
- 0 No Control
- A LCD Thermostat (TM50)
- B LCD Thermostat (TM56, group control type)

Current

Digit 12: Factory Mounted Control / Valve Package

N = None

A = 2-pipe, with 2-way Valve

B = 2-pipe, with 3-way Valve

C = 4-pipe, with 2-way Valves

D = 2-pipe, with 2-way Valve & LCD Thermostat

E = 2-pipe, with 2-way Valve & LCD Thermostat (Configured with VVV System only)

F = 2-pipe, with 3-way Valve & LCD Thermostat

G = 4-pipe, with 2-way Valves & LCD Thermostat

H = 2-pipe, with 2-way Valve & ZN510 w/ Zone Sensor

J = 2-pipe, with 3-way Valve & ZN510 w/ Zone Sensor

K = 4-pipe, with 2-way Valves & ZN510 w/ Zone Sensor

L = 2-pipe, with 2-way Valve & ZN520 w/ Zone Sensor

M = 2-pipe, with 3-way Valve & ZN520 w/ Zone Sensor

Unlock Valve & Control Combination, Much Easier!

Basic Offering

New

Digit 14 Plenum Filter

- 0 None
- A Rear Return Air Plenum
- B Rear Return Air Plenum w/ 6mm Nylon Filter
- C Rear Return Air Plenum w/ 20mm Al Filter
- D Bottom Return Air Plenum
- E Bottom Return Air Plenum w/ 6mm Nylon Filter
- F Bottom Return Air Plenum w/ 20mm Al Filter

Digit 15 Drain Pan

- A Cold-roll Steel, PE Insulation
- B Cold-roll Steel, PE Insulation (+200mm)
- C Cold-roll Steel, PE Insulation (+310mm)
- D Stainless Steel, PE Insulation
- E Stainless Steel, PE Insulation (+200mm)
- F Stainless Steel, PE Insulation (+310mm)
- G Cold-roll Steel, Non-flammable Insulation
- H Cold-roll Steel, Non-flammable Insulation (+200mm)
- J Cold-roll Steel w/ Non-flammable Insulation (+310mm)
- K Stainless Steel w/ Non-flammable Insulation
- L Stainless Steel w/ Non-flammable Insulation (+200mm)
- M Stainless Steel w/ Non-flammable Insulation (+310mm)
- N Cold-roll Steel, PE Insulation + aux drain pan
- P Cold-roll Steel, PE Insulation (+200mm) + aux drain pan
- Q Cold-roll Steel, PE Insulation (+310mm) + aux drain pan
- R Stainless Steel, PE Insulation + aux drain pan
- S Stainless Steel, PE Insulation (+200mm) + aux drain pan

. . . . . .

Current

Digit 14: Return Plenum / Filter

- N = None
- A = with Rear Plenum Only
- B = with Rear Plenum/ 6mm Nylon Filter
- C = with Rear Plenum/ 20mm Aluminum Filter
- D = with Bottom Return Plenum Only
- E = with Bottom Return Plenum/ 6mm Nylon Filter
- F = with Bottom Return Plenum/ 20mm Aluminum Filter

Digit 15: Drain Pan

- A = STD. Galvanized Steel w/ 7mm PE Insulation
- B = STD. Galvanized Steel w/ 7mm PE Insulation & Extended 200mm
- C = STD. Galvanized Steel w/ 7mm PE Insulation & Extended 310mm
- D = Stainless Steel w/ 7mm PE Insulation
- E = Stainless Steel w/ 7mm PE Insulation & Extended 200mm
- F = Stainless Steel w/ 7mm PE Insulation & Extended 310mm
- G = STD. Galvanized Steel w/ 6mm Non-flammable Close Cell Insulation
- H = STD. Galvanized Steel w/ 6mm Non-flammable Close Cell Insulation & Extended 200mm
- J = STD. Galvanized Steel w/ 6mm Non-flammable Close Cell Insulation & Extended 310mm
- K = Stainless Steel w/ 6mm Non-flammable Close Cell Insulation

No Change

Basic Offering

New

Digit 16 IAQ Option
- 0 No IAQ Option

Digit 17 Design Version
- 2 Design Version

Digit 18 Region
- A APR
- B MAIR
- C LAR
- H HongKong
- V China

2= New HFCF

Dedicated code for HK due to unique spec requirements

Current

Digit 17: Future Use
- N = None

Digit 18: Region
- A = APR
- B = MAIR
- C = LAR

Standardize Hong Kong Unit

Product Features

EarthWiseTM Coil (option)

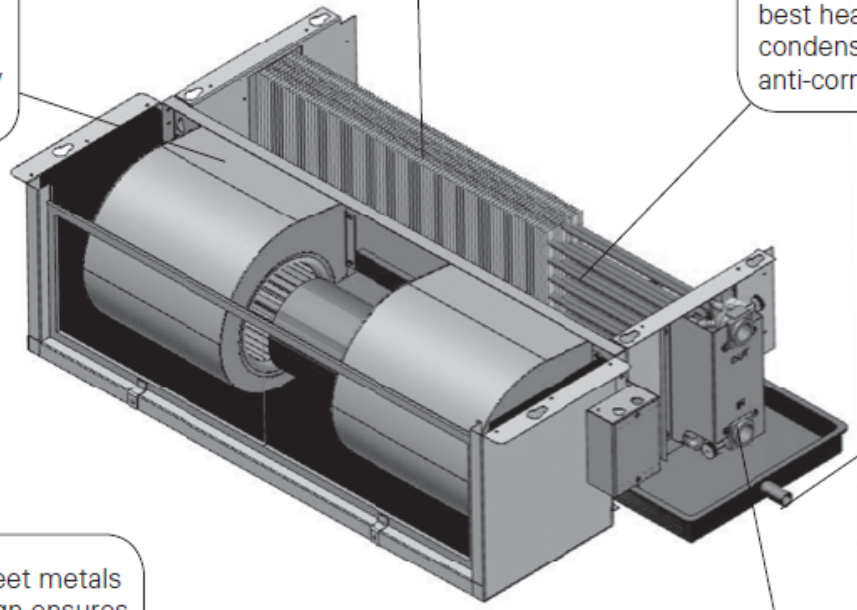
Re-tuned coil circuiting for High-delta-T application to optimize overall performance.

Stable Operation

Large-diameter FC centrifugal fan well calibrated statically and dynamically to eliminate vibration and noise; High-efficiency PSC motor equipped with permanently lubricated, sealed sleeve bearings

High Efficiency

High efficiency slit fin with hydrophilic coating, allowing best heat exchange efficiency, condensation carryover and anti-corrosion capability.



Condensation -free

One-piece stamping drain-pan manufacturing without any seam or joint, eliminating condensation risk with screw connection.

Low Noise

Well insulated in multiple sheet metals and ingenious structure design ensures best-in-class noise level.

Easy Maintenance

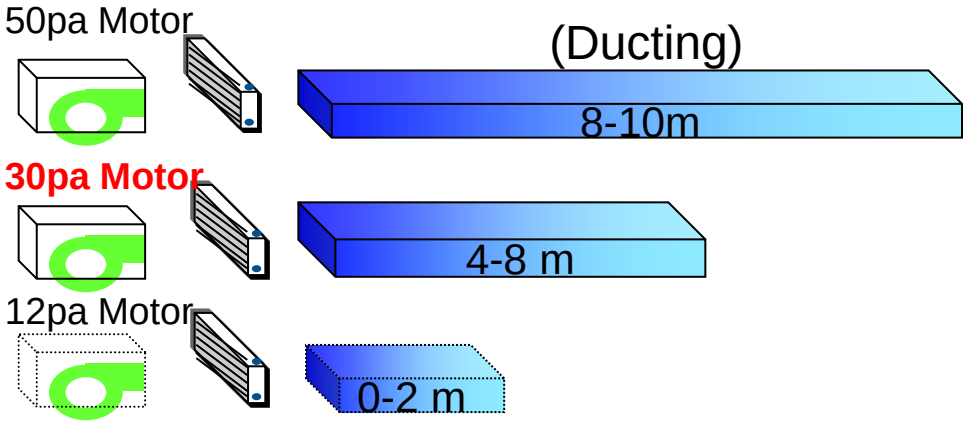
Designed to achieve much easier coil cleaning by dismount fan – motor assembly and return plenum within one step.

Easy Installment

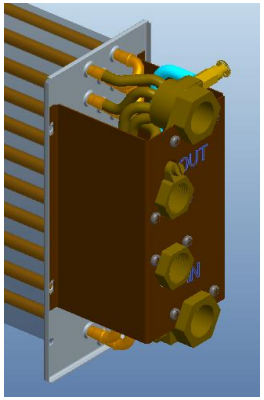
Water pipe designed as hexagon connection, totally reducing installment time and labor.

Five Patent Under Application

Valuable Options

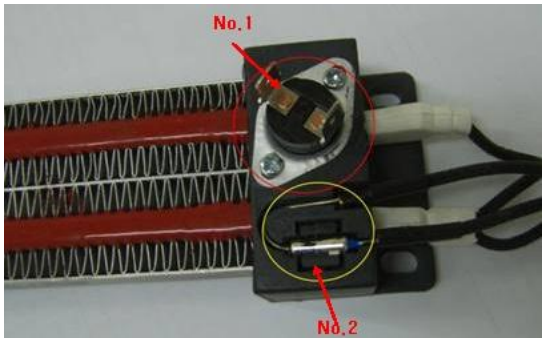


Full Range Motors

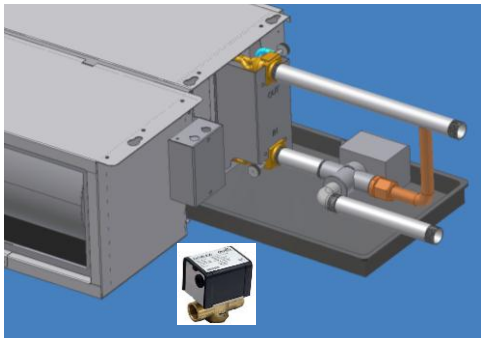


Earthwise Coil

Thermostat



E-Heater



Factory Mounted Valve

Default

+200 mm

+310 mm

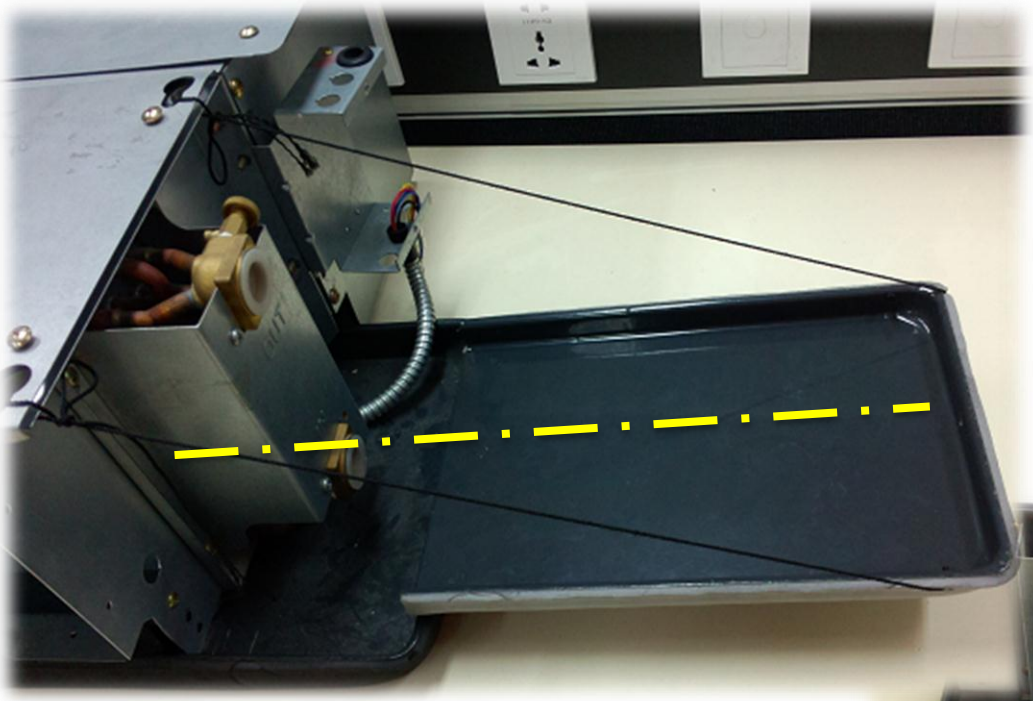
Base:
- Cold Roll Steel
- Stainless

Insulation:
- PE
- Armaflex

Full Matrix Drain-pan

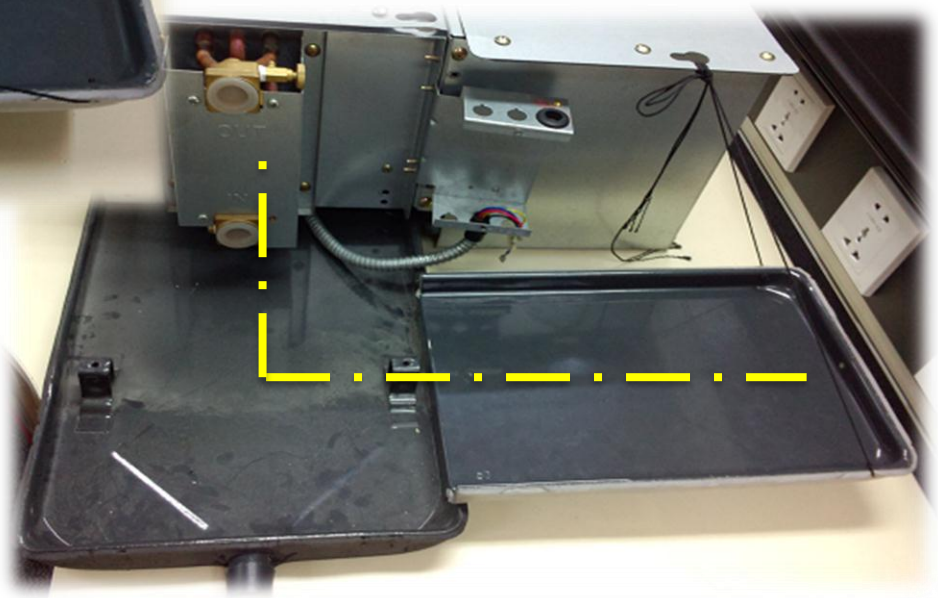
Rich Options

New Option – Aux Drain-pan



"I" Application

"L" Application



Higher Flexibility &Prevent Piping Condensation

Option Benchmark

	Trane	Carrier	Mcquay	York	Sinko
2+1R Coil	✓	✗	✓	✗	✓
3+1R Coil	✓	✓	✓	✓	✓
4R Coil	✓	✗	✗	✗	✗
Earthwise Coil	✓	✗	✗	✗	✗
E-heater	✓	✓	✓	Special	Special
Armaflex D-pan	✓	✗	✗	✗	✗

Rich Option to Compete

Optimized Design Point (Mid/Low Speed)

Revised Design Point (Mid/Low Speed)per Designer's Selection Preference

New

Model	Airflow		
	High	Middle	Low
HFCF02	340	280	180
HFCF03	510	410	270
HFCF04	680	550	350
HFCF05	850	690	440
HFCF06	1020	830	520
HFCF08	1360	1100	690
HFCF10	1700	1360	860
HFCF12	2040	1630	1020
HFCF14	2380	1900	1190
	High	Middle	Low
12Pa	12	12	12
30Pa	30	30	30
50Pa	50	50	50

Current

Model	Airflow		
	High	Middle	Low
HFCF02	340	270	190
HFCF03	510	400	260
HFCF04	680	530	340
HFCF05	850	670	430
HFCF06	1020	790	480
HFCF08	1360	1060	710
HFCF10	1700	1360	850
HFCF12	2040	1670	1150
HFCF14	2380	1900	1300
	High	Middle	Low
12Pa	12	7.5	3
30Pa	30	19	7.5
50Pa	50	32	12.5

No Need to Select A Larger Size To Compete

More Compact

Unit Length

Unit: mm

Company	2#	3#	4#	5#	6#	8#	10#	12#	14#	Avg
New HFCF	648	798	898	978	1183	1423	1543	1783	1963	1246
Old HFCF	648	883	983	1103	1153	1433	1683	1853	1983	1302
42CE (Carrier)	690	770	890	970	1090	1410	1530	1770	2010	1237
YGFC (York)	730	830	930	1030	1150	1450	1550	1750	2050	1274
MCM (McQuay)	675	815	915	995	1095	1425	1525	1725	1985	1239
SGCR (Sinko)	726	826	926	1026	1126	1406	1746	1946	2146	1319

Unit Height

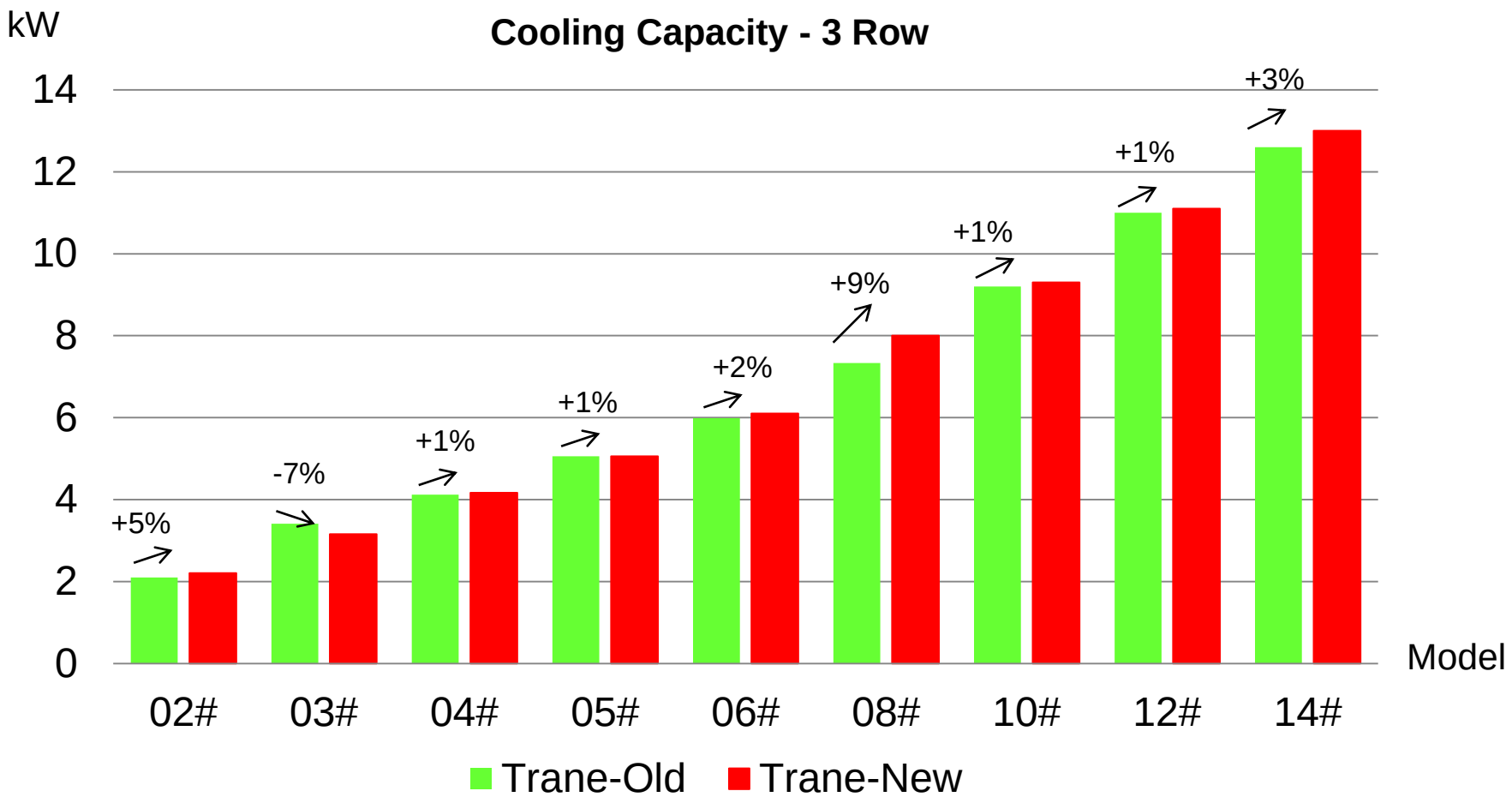
New HFCF	238
Old HFCF	228
42CE (Carrier)	220
YGFC (York)	228
MCM (McQuay)	226
SGCR (Sinko)	223

Unit Width

New HFCF	480
Old HFCF	487
42CE (Carrier)	466
YGFC (York)	473
MCM (McQuay)	465
SGCR (Sinko)	465

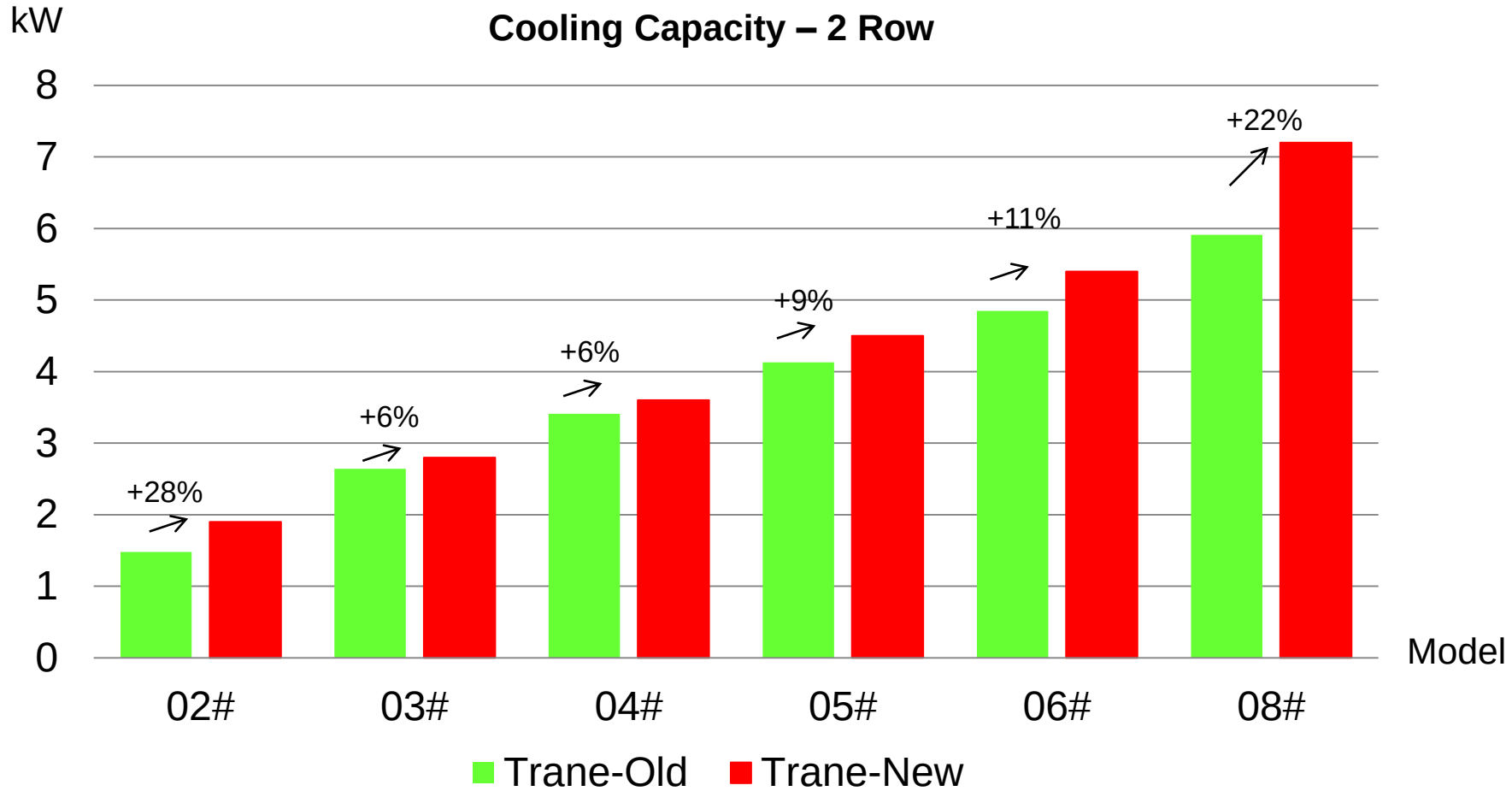
Large Foot Print Issue Solved / No Problem for Retrofit!

Better Performance



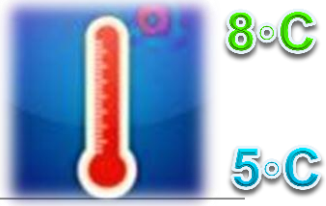
Average 2% Up & 9% Up for size 08

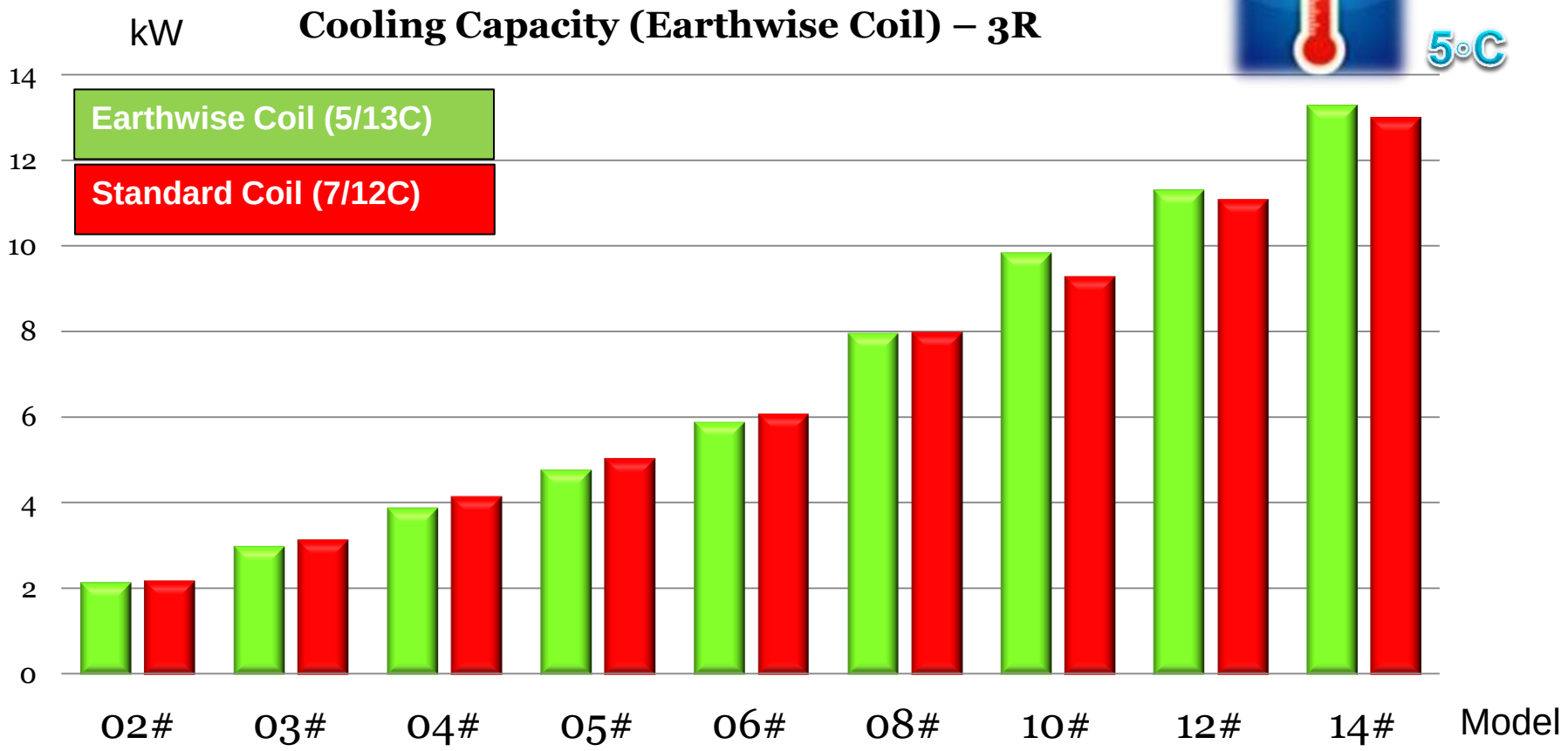
Better Performance



Average 14% Up & 28% Up for size 02 / ***Try 2 Row to Achieve Pricing Advantage***

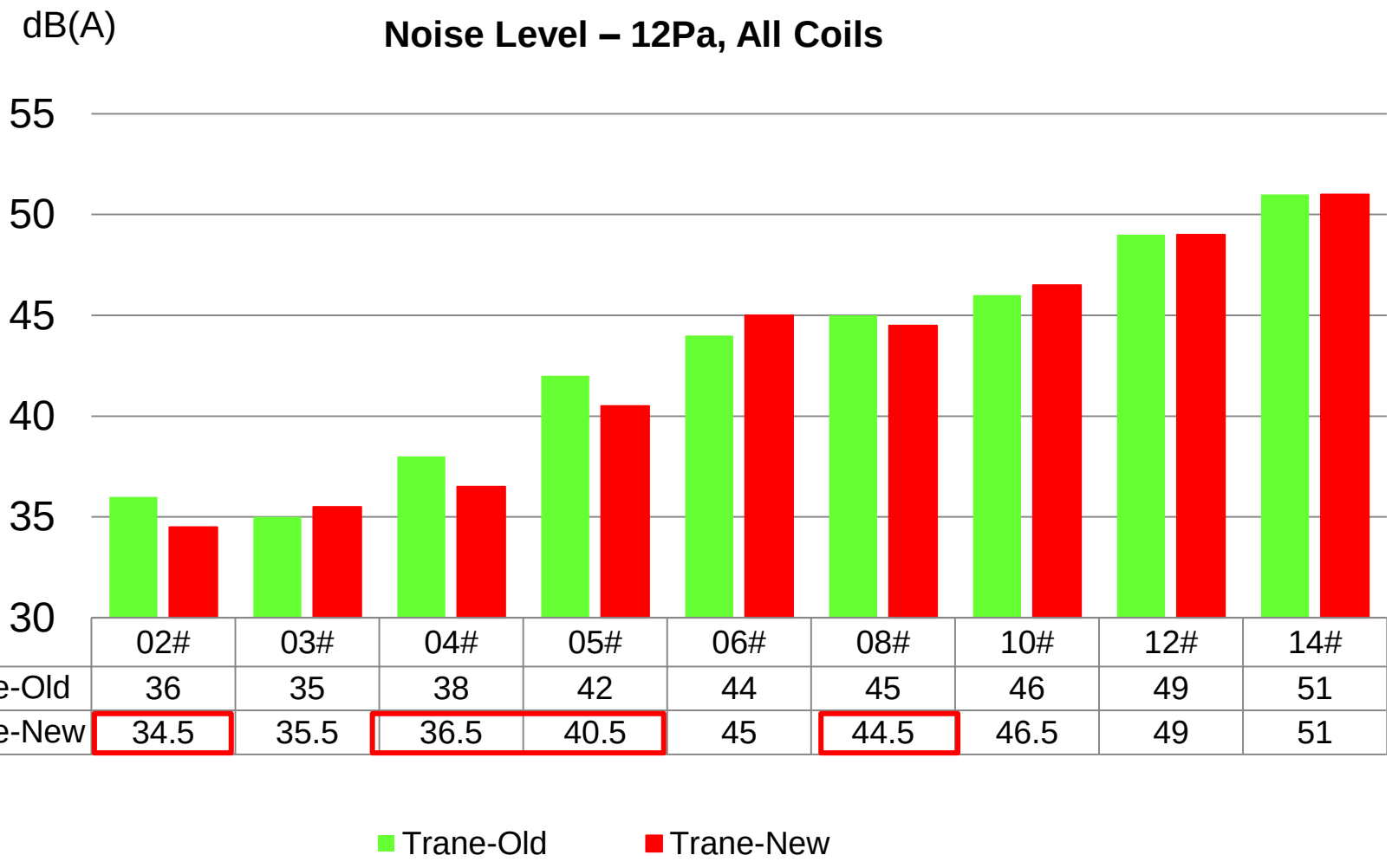
Better Performance





Dedicated Coil Design and Excellent Performance

Better Performance



	02#	03#	04#	05#	06#	08#	10#	12#	14#
Trane-Old	36	35	38	42	44	45	46	49	51
Trane-New	34.5	35.5	36.5	40.5	45	44.5	46.5	49	51

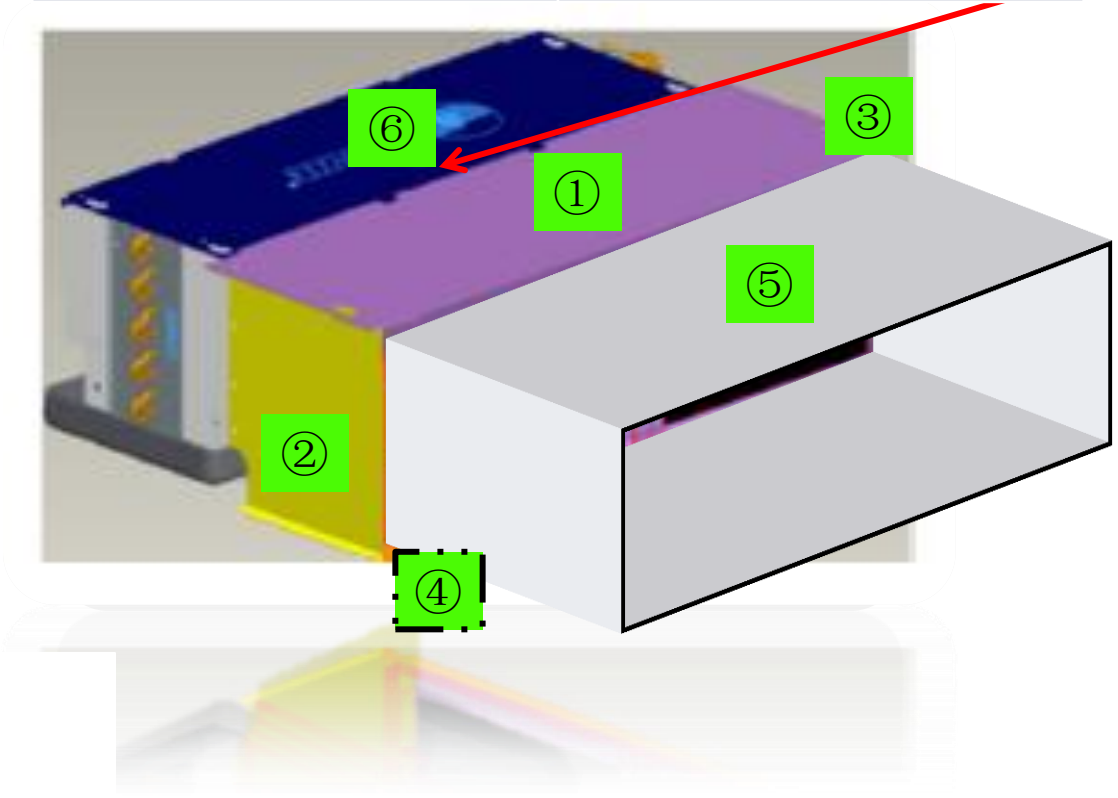
Keep Noise Advantage and Optimize for Small Sizes (Hotel, Bedroom Application)

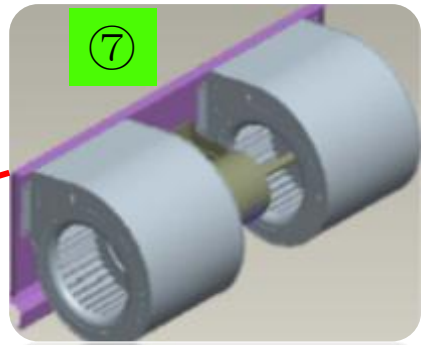
More Convenient

1. Patented Design for Coil Cleaning

Need to Remove below sheets before coil cleaning

Competitor	New HFCF
①②③④⑤⑦	④⑦





① Plenum Top Sheet

② Plenum Left Sheet

③ Plenum Right Sheet

④Plenum Bottom Sheet

⑤Air Duct

⑥Unit Top Sheet

⑦Fan Mount Sheet

Great Improvement in Labor Saving!

Better Pricing Competitive

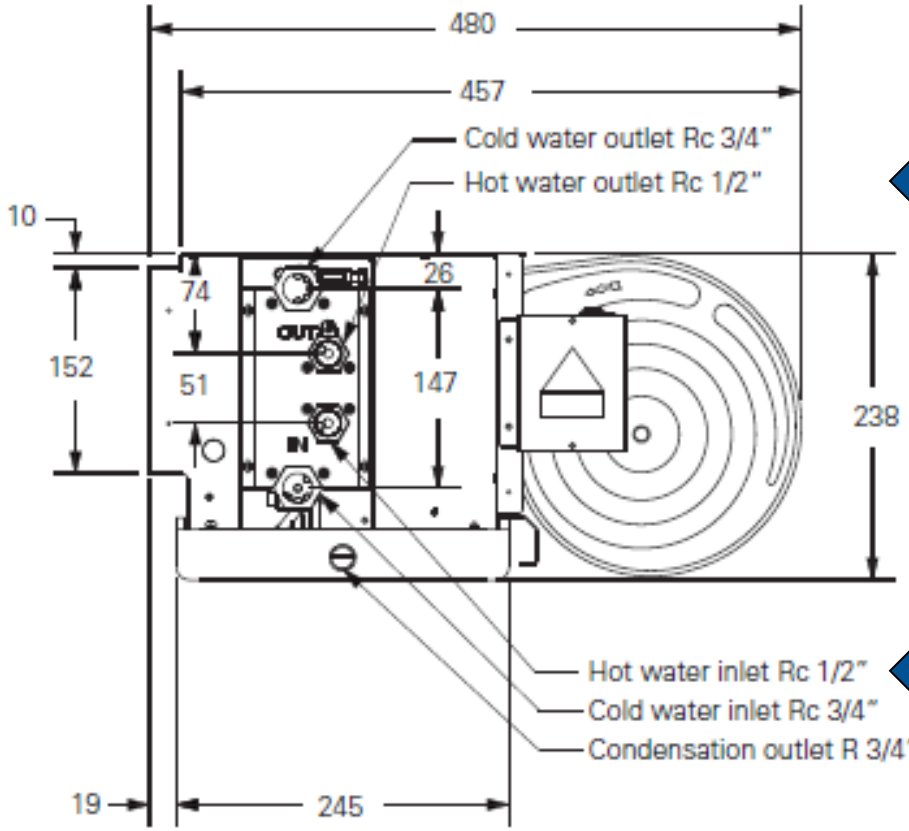
	Old				New				TP Down
Model	LP ($)	MPM	FAP	TP ($)	LP ($)	MPM	FAP	TP	
02	436			72	383			63	12%
03	513			85	461			76	10%
04	610			101	486			80	20%
05	678			112	526			87	22%
06	711	1.1031	0.15	118	572	1.1031	0.15	95	20%
08	827			137	800			132	3%
10	976			161	854			141	13%
12	1133			187	958			159	15%
14	1197			198	1017			168	15%
				130				111	15%

List Price Down

Average 15% Transfer Pricing Down

Installment Difference

For 4-Pipe Unit Only

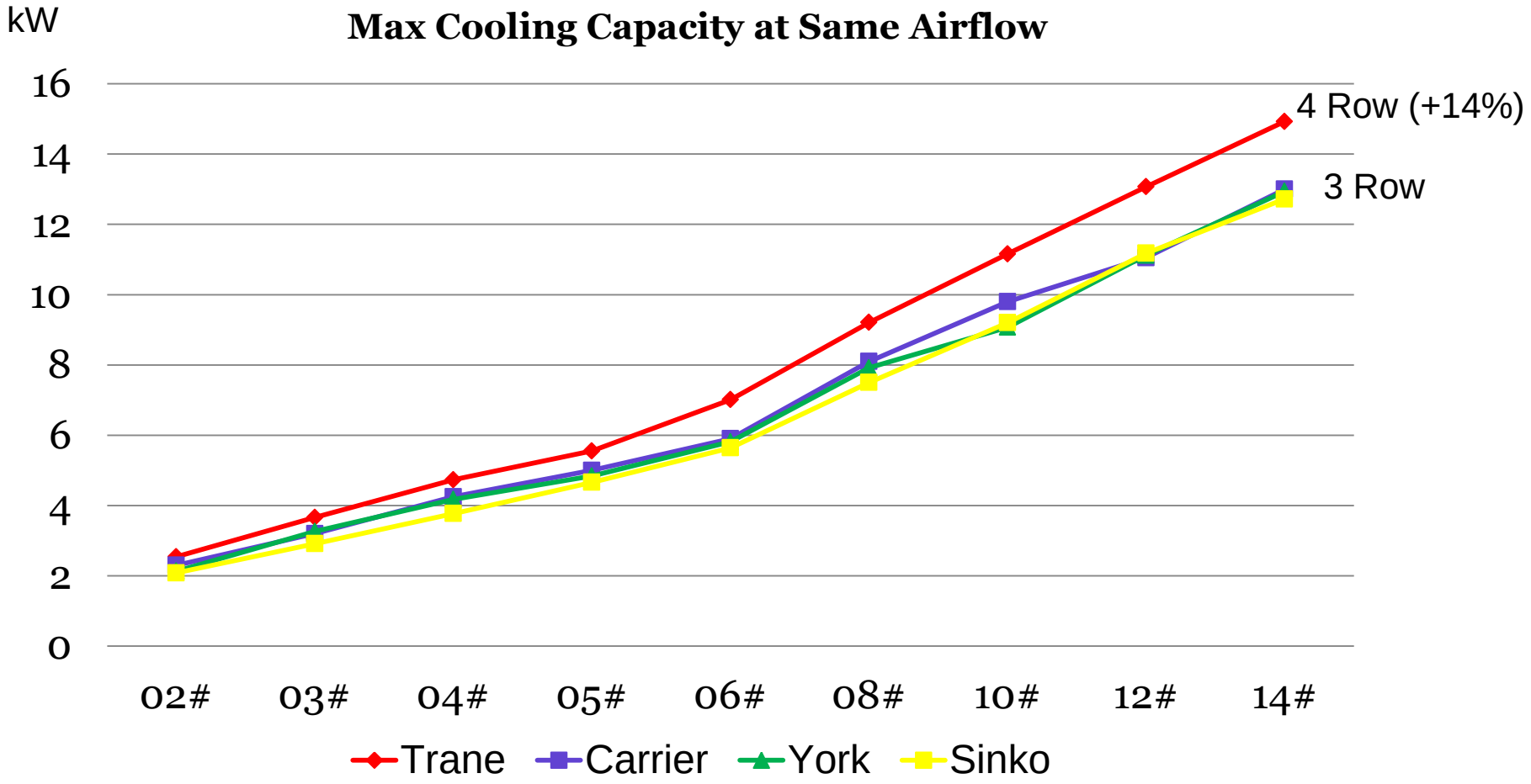


Old HFCF is ¾”

Old HFCF is ¾”

Better Highlight to Customer In Advance

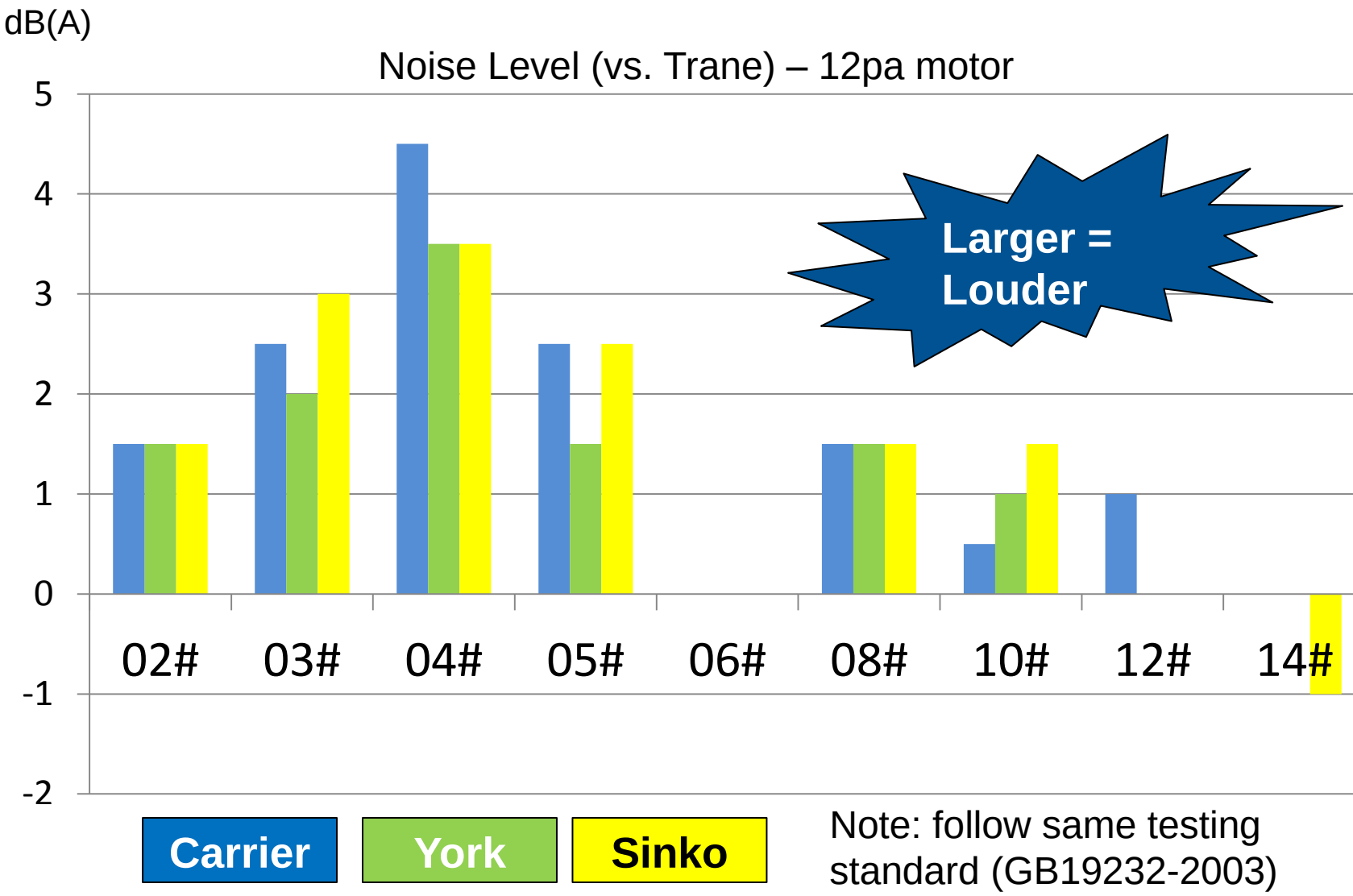
Competition



Competitors have to use a bigger size to compete, more expensive & noisy!

Standardized 4R Coil to Deliver Max Cooling Capacity

Competition



Best Noise Performance

Selling Point

Earthwise Coil for Large Delta T /District Cooling Application, Supporting Package Selling (with Chiller)

Excellent 2-row Coil Performance, Better Pricing Competitiveness

Easier Coil Cleaning, Best Choice for Hi-end Hotel and Hospital, high expectation for air quality control.

Unique 4-Row Coil to Deliver Ultra-high Cooling Capacity and Dehumidification Performance

Standardize ArmaFlex Insulation Material to Meet Class 0 Requirement Per BS476

Group Control (w/ dedicated Thermostat, TM56) for BAS Management

The Value We Could Deliver

Support Contact

If you have more questions about this product, pls. contact:

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Zheng Gang
Terminal Product Manager (Shanghai)
Email: Gang.zheng@trane.com
Office Phone #: 86-21-2221 5138

Contact Us If You Need More Insights About This Product !

Thank you!