

Technical Manual

SPLIT SYSTEM AIR CONDITIONER



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A. Preface

INTRODUCTION

The Service Manual for AVL model split air-conditioners provides comprehensive technical documentation for the equipment.

This manual contains information intended for a variety of uses and is intended for application engineers, architects, designers and various level service and installation personnel.

This manual includes information on the optional features offered by the AVL series. In addition, it includes general information for service personnel on split air-conditioners, electrical wiring diagrams, refrigeration cycle diagrams and cooling & heating capacity curves for the various series models.

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Tadiran reserves the right to change product specifications without prior notice.

Super SKY

1. Super SKY LINE GENERAL DESCRIPTION

1.1 Product Options

Line: AVL

Characteristics: Low Profile Mini-Central

50Hz Models:

		Options	
	50Hz Models	C	H
1 PHASE	AVL 25	✓	✓
	AVL 35	✓	✓
	AVL 50	✓	✓
	AVL 60	✓	✓
3 PHASE	AVL 353	✓	✓
	AVL 503	✓	✓
	AVL 603	✓	✓
	AVL 753	✓	✓

C - Cooling only (No heat pump).

H - Heating and Cooling by heat pump.

☐	- Non Exist
☒	- Exist

Super SKY

1.2 Nameplate Information

Technical information for a specific unit appears on the unit nameplate, which is attached to the indoor and/or the outdoor units.

(See Figure 1-1: Typical Technical Data Nameplate for 50Hz models).

The 50Hz models Nameplate includes the following information:

MODEL	Air-conditioner (A/C) model name.
CLIMATE CLASS	Type of climate for which the unit was designated - classified by: Class A (standard) or Class B (desert conditions < 52°C.).
VOLT/PHASE/Hz	A/C power supply, for example: 230/1/50 = 230V/1ph/50Hz.
COS (φ)	Power factor for the unit.
FUSE	Required fuse size (Amp.)
CAPACITORS [μF]	All capacitor values according to this sequence (Compressor capacitor / Outdoor motor capacitor / Indoor motor capacitor).
REFRIGERANT R-22 [gr]	Quantity of refrigerant charge (for 8 m piping length).
COMPRESSOR	Type and Catalogue No. of compressor.
CAPACITY BTU/H	Cooling and Heating capacity in Btu/h according to ISO 5151 standard (1000Btu/h=293W).
CAPACITY W	Cooling and Heating capacity in Watts (1000W=3,413Btu/h).
INPUT POWER	Power consumption in cooling and heating modes (Watts).
AMPER	Current consumption in cooling and heating modes (Amp.).
SERIAL NO.	Unit serial number (normally blank, since Bar Code system is used).

MODEL TNL-S35H	CLIMATE CLASS A7-A20, T1	CAPACITY BTU/H		COOLING	HEATING	SER. NO.
	VOLT/PH./HZ = 230V / 1/50Hz	CAPACITY W		28600	30000	
	COS(φ) = 0.97 Ps=600PSI	INPUT POWER W		8300	8800	
	FUSE = 10 H25A IP20	AMPER A		3540	3200	
	CAPACITORS = 60/5/2			15.5	14.4	
	REFRIGERANT R22 GR - 2050					
	COMP. - COPELAND CR24KFP2502					
	ADD 30 GR GAS & 10 GR OIL FOR EACH METER OVER 8 METER					
	CAT - 51302646110-A					
						

Figure 1-1: Typical Technical Data Nameplate for 50Hz Units (Sample).

1.3 Technical data table Specifications for AVL 50Hz Models

Model	50Hz	AVL-25	AVL-35 / 353	AVL-50 / 503
Cooling Capacity	Btu/h Kcal/h (Watt)	24,000 6,060 (7,030)	28,000 7,070 (8,210)	33,000 8,330 (9,670)
Heating Capacity	Btu/h Kcal/h (Watt)	28,000 7,070 (8,210)	31,000 7,830 (9,090)	36,000 9,090 (10,550)
Power Consumption Cooling	Watt	2,670	3,110	3,670
Power Consumption Heating	Watt	2,650	2,930	3,400
Operating Current (Cooling/Heating)	Amp. - 1ph - 3ph	12.5 / 12.4	14.3 / 13.7 7.8,4.8,4.8 / 7.7,4.7,4.7	17.1 / 15.9 8.5,5.5,5.5 / 8.3,5.3,5.3
EER – Energy Efficiency Ratio	Cool	9.0	9.0	9.0
COP – Coefficient Of Performance	Heat	3.1	3.1	3.1
Moisture Removal	l/h	3.1	3.8	4.2
Power Supply	Volt/Hz/ph	220/240V, 50Hz, 1ph	220/240V, 50Hz, 1ph or 380/415V, 50Hz, 3ph	
Power Factor	φ	0.93	0.94	0.93
Refrigerant Lines - Drain	φ - mm (in)	16 (5/8)		
Liquid/Gas Lines	φ - in	3/8 ; 5/8 (insulated)		
Minimal insulation thickness	mm (in)	7 (9/32)		
Maximum Piping Length	m (ft.)	30 (98')		
Maximum Height Difference *	m (ft.)	15 (49')		
Time Delay Fuse - 1ph-h - 3ph-h	Amp.	20	20 3 × 10	25 3 × 10
Control Mode		I.R. Remote Control / Auto		
Temperature Control		Microcomputer		
A/C Options:		C (Cool only) / H (Heat pump) / HDE (H + Heating Element) - under development		
Indoor Unit	50Hz	AVL-25	AVL-35 / 353	AVL-50 / 503
Front Panel	Color	Metallic		
Air Filter		Removable/Washable 2 Filters		
Air Direction Control		Air Ducts		
Dimensions (LxHxD)	mm in	1150 × 285 × 750 45 1/4× 11 7/32 × 29 1/2		
Air Flow (Turbo/High/Low)	m ³ /h cfm	2040 / 1785 / 1445 1200 / 1050 / 850		
Noise Level (Turbo/High/Low)	dBA	37 / 32 / 29		38 / 36 / 34
Net Static Pressure H ₂ O	mm (in)	7.5 (0.3)		
Net Weight	Kg (Lb.)	45 (99)	47 (103)	
Indoor Fan Motor:	HP	1/5		
Speed (Turbo/High/Low)	R.P.M.	930 / 800 / 650		
Full Load Amperage	Amp.	1.2		
Capacitor	μF/Volt	5μF / 400V		
Electrical Heater	Watt	Under Development		
Blower Wheel	Type	2 Centrifugal Blowers		
Outdoor Unit	50Hz	AVL-25	AVL-35 / 353	AVL-50 / 503
Casing	Color	White		
Dimensions (LxHxD)	mm in	900 × 640 × 320 35 7/16× 25 3/16 × 12 19/32		1100 × 640 × 320 43 5/16× 25 3/16× 12 19/32
Air Flow (High/Medium/Low)	m ³ /h cfm	3,910 / 3,060 / 2,210 2,300 / 1,800 / 1,300		
Noise Level (High/Medium/Low)	dBA	53 / 50 / 48		
Net Weight	Kg. (Lb.)	65 (143)	65 (143)	73 (160)
Fittings	Type	Flare		
Compressor - 1ph - 3ph		H29B32UABKA	H29B35UABKA H25B353DBEA	H28A423ABKA H23A423DBEA
Thermal Protector		Overload		
Full Load Amperage - 1ph - 3ph	Amp.	12.4	12.4 3 × 4.7	16.8 3 × 5.8
Lock Rotor Amperage - 1ph - 3ph	Amp.	76.0	76.0 3 × 42.0	92.0 3 × 39.0
Compressor Capacitor	μF/Volt	40μF / 400V	40μF / 400V	60μF / 400V
Capillary	1ph 3ph	2 × 0.064" × 32"	2 × 0.070" × 38" 2 × 0.070" × 38"	2 × 0.070" × 32" 2 × 0.070" × 32"
R-22 Freon Gas - 1ph - 3ph	gr. (Oz.)	2,120 (74.8)	1,970 (69.5) 1,970 (69.5)	2,030 (71.6) 2,030 (71.6)
Oil for Compressor	Type	3GS or compatible		
Outdoor Fan Motor:	HP	1/5		
Capacitor	μF/Volt	5μF / 400V		
Speed (High/Medium/Low)	R.P.M.	900 / 700 / 500		
Motor Full Load Amperage	Amp.	1.3		

Specifications and performance data are subject to change without notice.

Specifications for AVL 50Hz Models Continued

Model	50Hz	AVL-60	AVL-603	AVL-75
Cooling Capacity	Btu/h Kcal/h (Watt)	36,000 9,090 (10,550)	38,000 9,600 (11,140)	43,500 10,980 (12,750)
Heating Capacity	Btu/h Kcal/h (Watt)	37,000 9,340 (10,850)	40,000 10,100 (11,720)	51,000 12,880 (14,950)
Power Consumption Cooling	Watt	3,700	3,920	5,000
Power Consumption Heating	Watt	3,500	3,780	4,400
Operating Current (Cooling/Heating)	Amp. - 1ph - 3ph	17.5 / 16.5	9.0,6.0,6.0 / 8.7,5.7,5.7	11.0,7.0,7.0 / 10.0,6.0,6.0
EER - Energy Efficiency Ratio	Cool	9.7	9.7	8.7
COP - Coefficient Of Performance	Heat	3.1	3.1	3.4
Moisture Removal	l/h	4.7	4.7	5.2
Power Supply	Volt/Hz/ph	220/240V, 50Hz, 1ph	380/415V, 50Hz, 3ph	
Power Factor	φ	0.92	0.92	0.92
Refrigerant Lines - Drain	φ - mm (in)	16 (5/8)		16 (5/8)
Liquid/Gas Lines	φ - in	3/8 ; 5/8 (insulated)		3/8 ; 3/4 (insulated)
Minimal insulation thickness	mm (in)	7 (9/32)		7 (9/32)
Maximum Piping Length	m (ft.)	30 (98') *		
Maximum Height Difference *	m (ft.)	15 (49') *		
Time Delay Fuse - 1ph-h - 3ph-h	Amp.	25	3 × 12	3 × 16
Control Mode		I.R. Remote Control / Auto		
Temperature Control		Microcomputer		
A/C Options:		C (Cool only) / H (Heat pump) / HDE (H + Heating Element) - under development		
Indoor Unit	50Hz	AVL-60	AVL-603	AVL-75
Front Panel	Color	Metallic		
Air Filter		Removable/Washable 2 Filters		
Air Direction Control		Air Ducts		
Dimensions (LxHxD)	mm in	1150 × 285 × 750 45 1/4 × 11 7/32 × 29 1/2		
Air Flow (Turbo/High/Low)	m ³ /h cfm	2040 / 1785 / 1445 1200 / 1050 / 850		2550 / 2210 / 1870 1500 / 1300 / 1100
Noise Level (Turbo/High/Low)	dBA	37 / 32 / 29		37 / 36 / 34
Net Static Pressure H ₂ O	mm (in)	7.5 (0.3)		10.0 (0.4)
Net Weight	Kg (Lb.)	47 (103)		49 (108)
Indoor Fan Motor:	HP	1/5		1/3
Speed (Turbo/High/Low)	R.P.M.	930 / 800 / 650		1100 / 950 / 800
Full Load Amperage	Amp.	1.2		2.4
Capacitor	μF/Volt	5μF / 400V		15μF / 400V
Electrical Heater	Watt	Under Development		
Blower Wheel	Type	2 Centrifugal Blowers		
Outdoor Unit	50Hz	AVL-60	AVL-603	AVL-75
Casing	Color	White		
Dimensions (LxHxD)	mm in	1100 × 640 × 320 43 5/16 × 25 3/16 × 12 19/32		1140 × 640 × 400 44 7/8 × 25 3/16 × 15 3/4
Air Flow (High/Medium/Low)	m ³ /h cfm	3,910 / 3,060 / 2,210 2,300 / 1,800 / 1,300		
Noise Level (High/Medium/Low)	dBA	53 / 50 / 48		54 / 51 / 47
Net Weight	Kg. (Lb.)	75 (165)	82 (180)	90 (198)
Fittings	Type	Flare		
Compressor - 1ph - 3ph		H28A423ABKA	H23A50QDBEA	H23A56QDBEA
Thermal Protector		Overload		
Full Load Amperage - 1ph - 3ph	Amp.	16.8	3 × 6.6	3 × 7.5
Lock Rotor Amperage - 1ph - 3ph	Amp.	92.0	3 × 53.0	3 × 62.0
Compressor Capacitor	μF/Volt	60μF / 400V		None
Capillary	1ph 3ph	2 × 0.080" × 55" & 1 × 0.054" × 12" (1ph)		Expansion Valve
R-22 Freon Gas - 1ph - 3ph	gr. (Oz.)	2,700 (95.2)	2,550 (90.0)	3,800 (134.0)
Oil for Compressor	Type	3GS or compatible		
Outdoor Fan Motor:	HP	1/5		
Capacitor	μF/Volt	5μF / 400V		
Speed (High/Medium/Low)	R.P.M.	900 / 700 / 500		
Motor Full Load Amperage	Amp.	1.3		

Specifications and performance data are subject to change without notice.

Super SKY

1.4 Standards Compliance and Agency License Listings

✓	- Approved
-	- Not Applicable (N/A)

Model	50 Hz	
	CE	GS(TUV)
AVL 25	✓	✓
AVL 35	✓	✓
AVL 50	✓	✓
AVL 60	✓	✓
AVL 353	✓	✓
AVL 503	✓	✓
AVL 603	✓	✓
AVL 753	✓	✓

CE - Confirmation according to CE directives.

GS - Geprüfte Sicherheit (safety approved - German law)

ISO - International Standards Organization

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Super SKY

1.5 Bar-code system

Finished goods (packed evaporator or condenser) are labeled by Bar Code for easy identification of product configuration and storage.

Each unit has Bar Code labels as shown below, one on each side of the packed unit and small labels (with unit serial number only) are located on each unit (near the nameplate on the evaporator, beneath the valves and in the connection box of the condenser).

The structure of the Bar Code label:

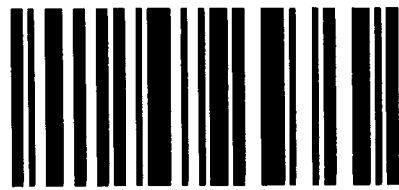
- A. Complete unit name, for example: GFL-2020C (GFL-2020 model without heat pump).
- B. Important components (up to 2 lines) about the specific unit, for example: CARRIER MEXICO, NEW R.C, TAC-404.
- C. Unit catalog number/order number, for example: CATALOG NO. 51382057712/880472 (prefix of 5138 for evaporator and 5139 for condenser).
- D. Unit serial number, for example: S/N 2248119059 = 22 - for factory use; 48 - 1998; 059185 - running (serial) number.
- E. Tadiran order number, for example: 880472 = 88 - 1998; 0 group; 472 - order running number.
- F. Small S/N cables (X3).

An additional Bar Code label displays the PALLET NO. (see next page) and is used for storage only.



Figure 1-4: Typical Evaporator/Condenser Unit Bar Code Identification Label

PALLET NO.



018345



018345



018345



018345

Figure 1-5: Typical Pallet Bar Code Label

2. WIRING & REFRIGERATION CYCLE DIAGRAMS, CAPACITY & PRESSURE CHARTS

2.1 Using AVL Model Air-Conditioner Cooling and Heating Capacity Curves

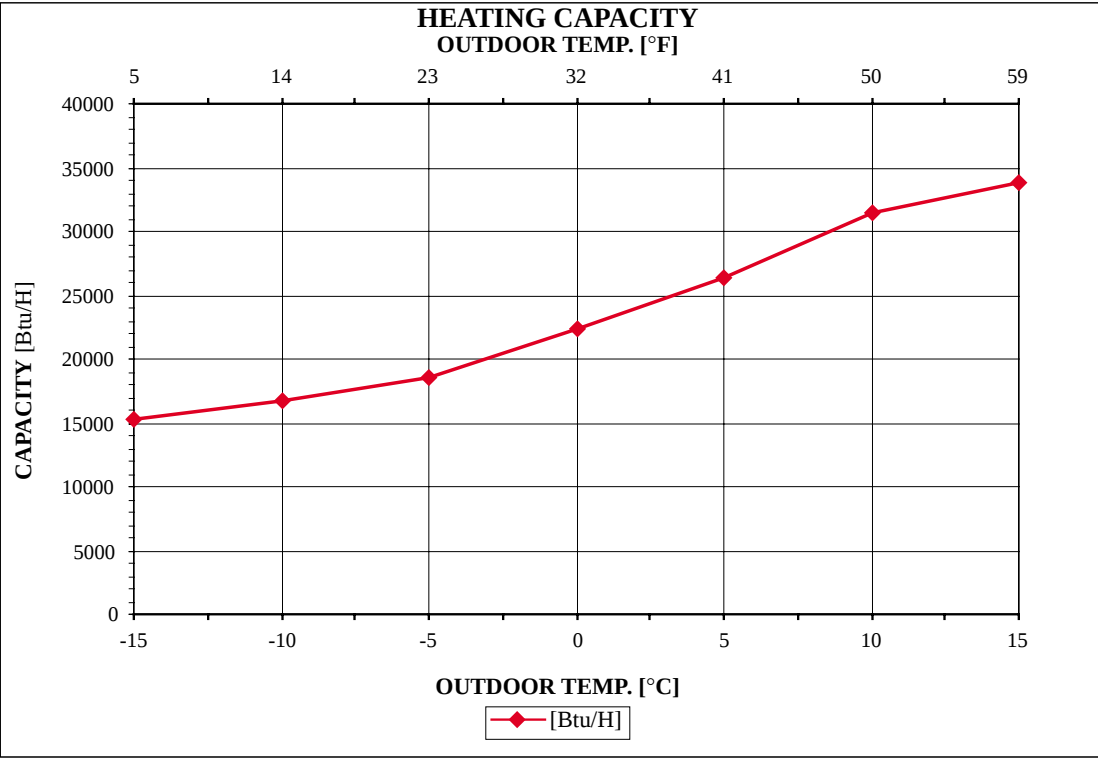
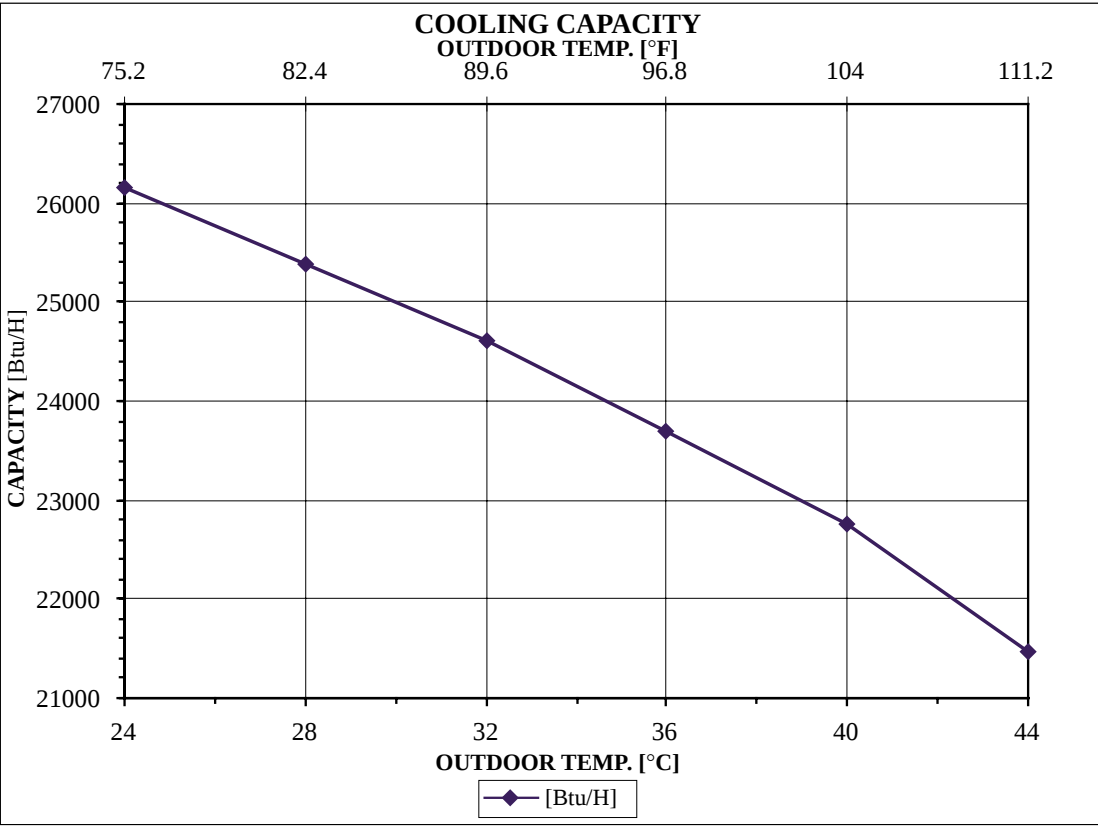
Using the Cooling and Heating Capacity Curves.

The Cooling and Heating Characteristics curves are mainly intended for use by air conditioning engineers as an aid in designing systems and in determining the capacity and number of units required at a given site.

The air conditioner capacities were determined in accordance with ISO 5151 standard operating conditions:

Design parameters for a given site are often different than the standard conditions. Therefore, the design engineer should use the capacity charts which follow to calculate the capacity of the air conditioners under the intended working conditions, in order to optimize the selection of air conditioner units for use at a particular site.

2.1.1 Cooling and Heating Capacity Curves AVL 25

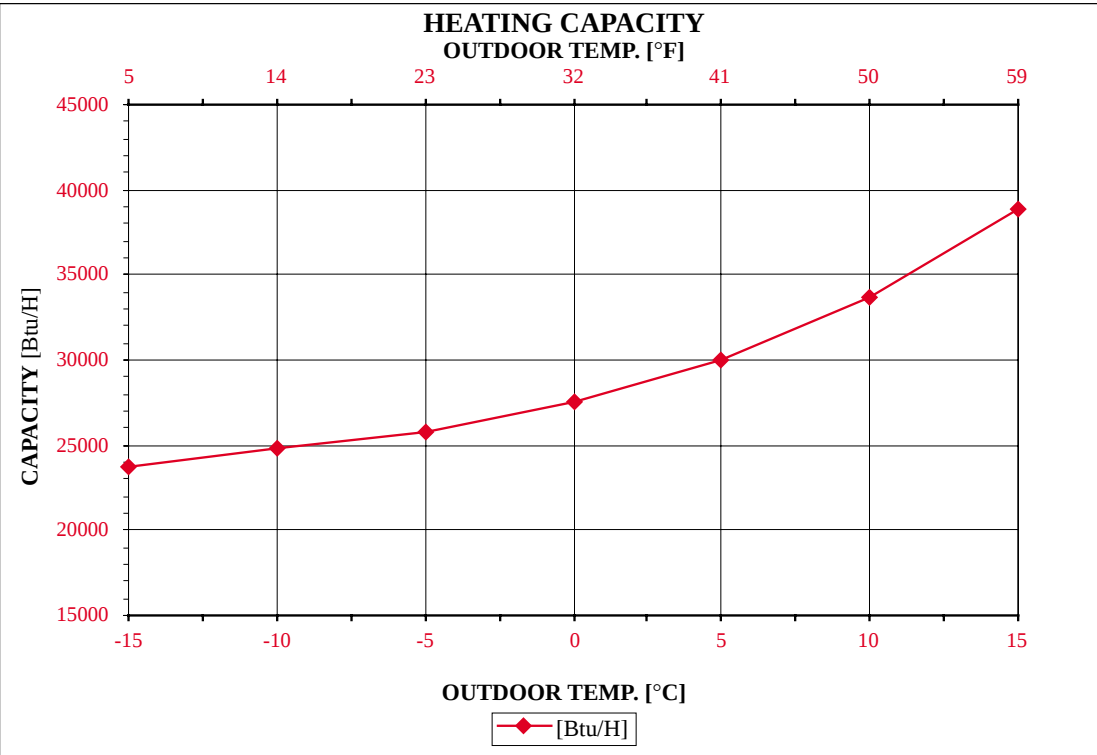
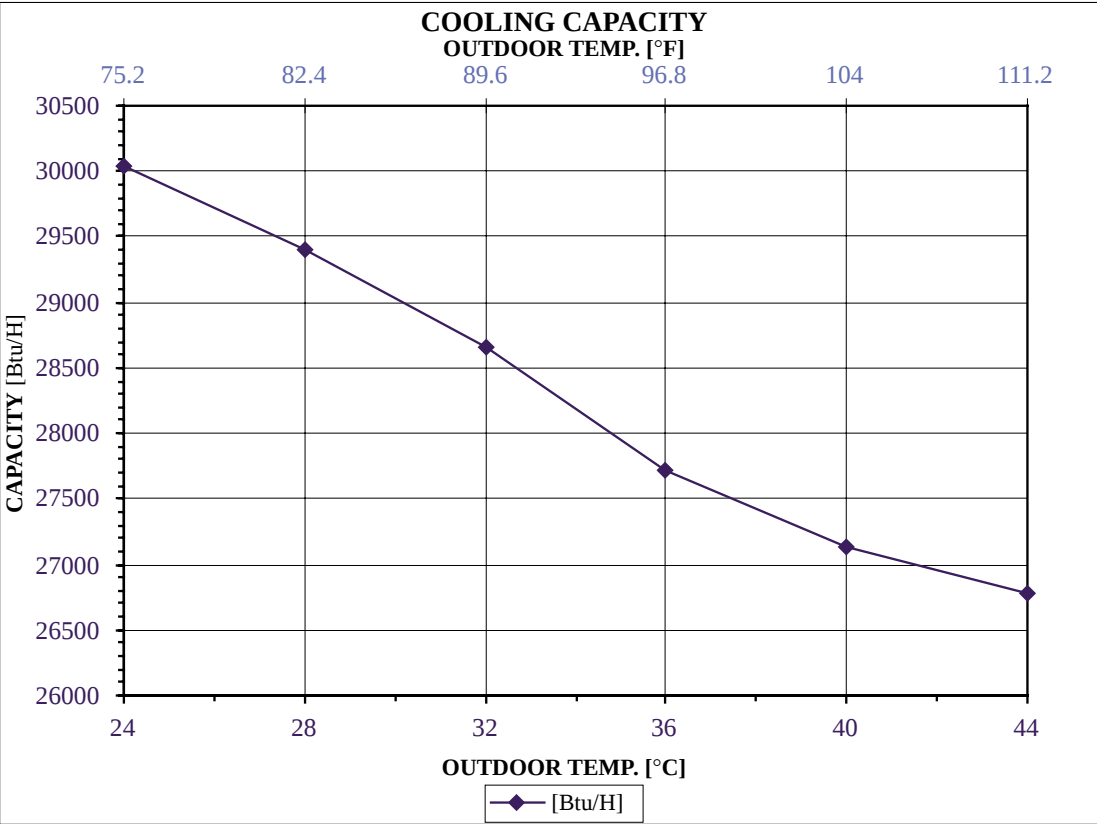


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.2 Cooling and Heating Capacity Curves AVL 35

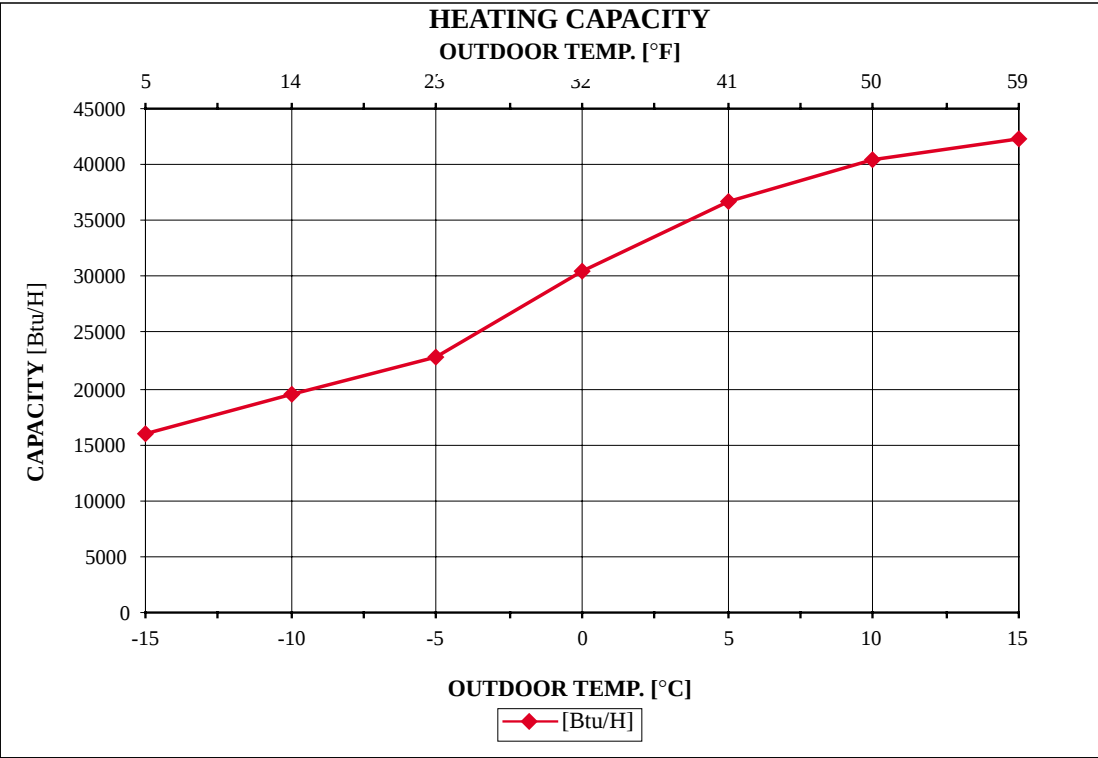
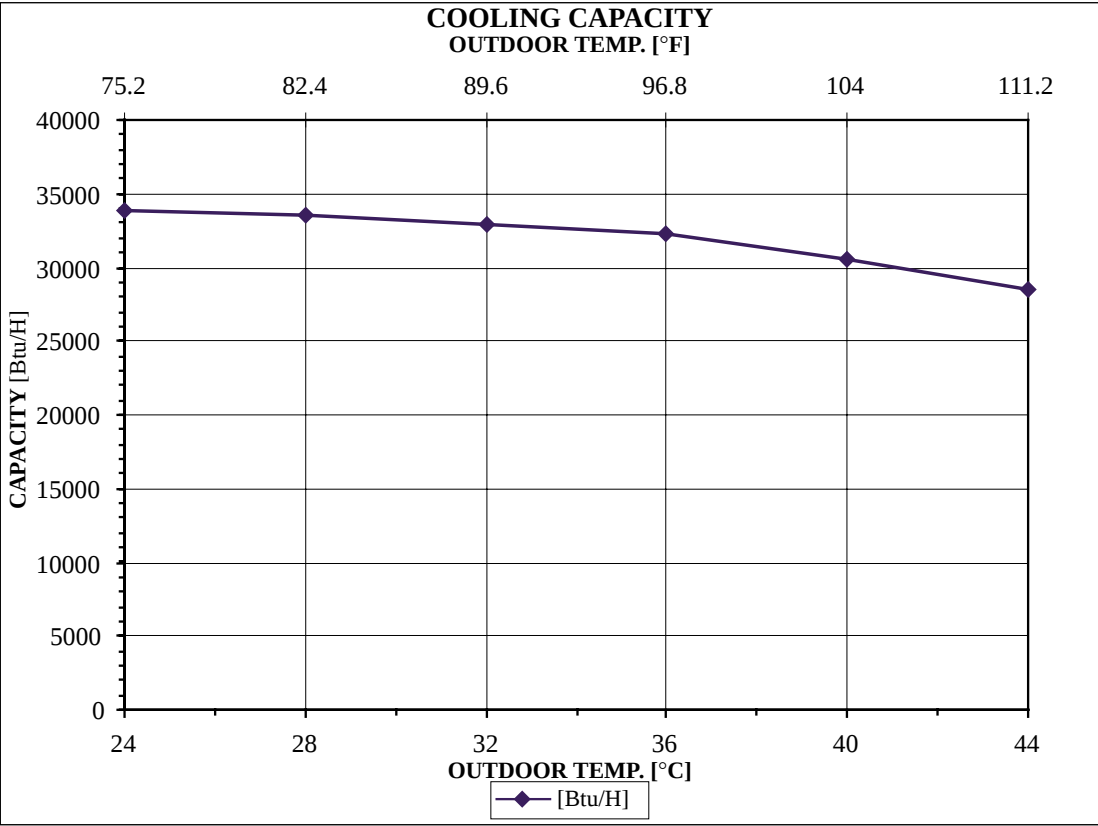


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.3 Cooling and Heating Capacity Curves AVL 50

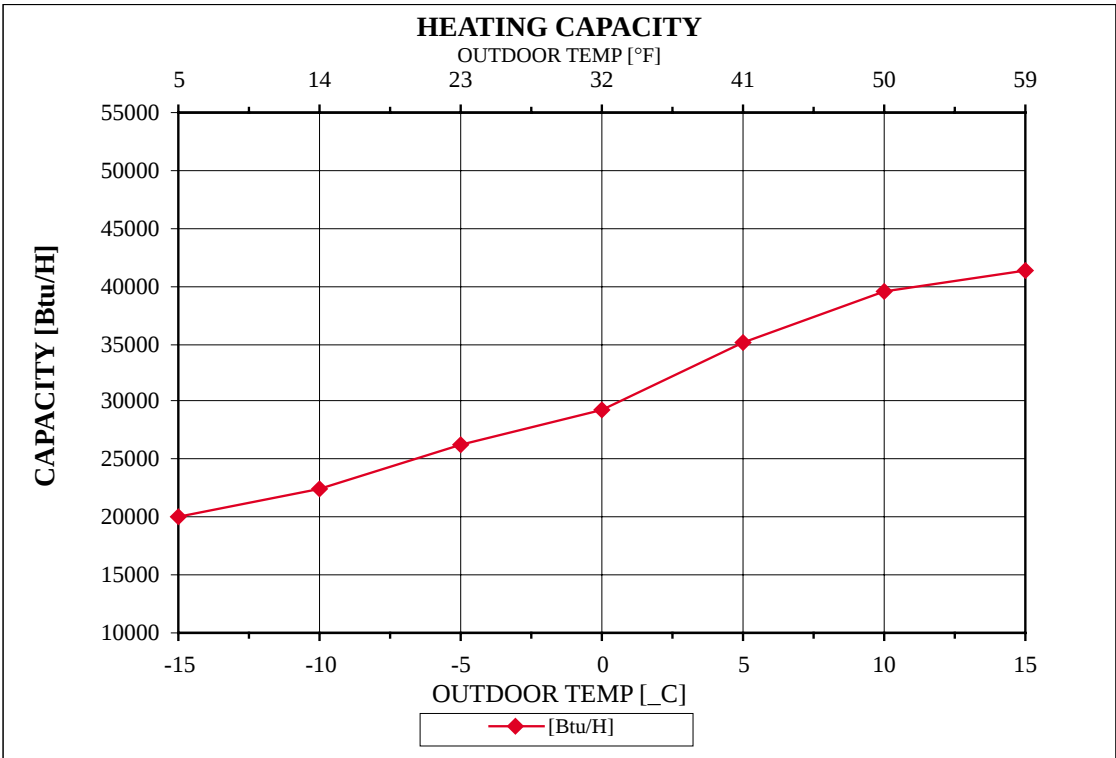
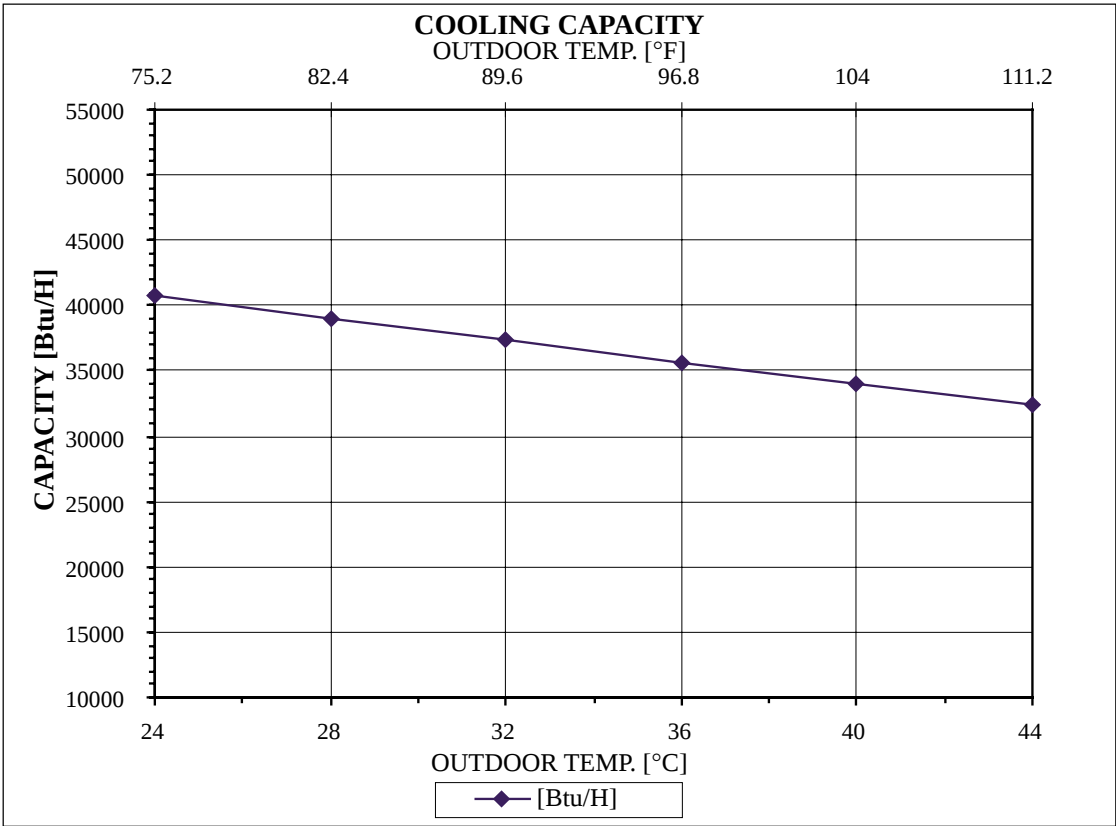


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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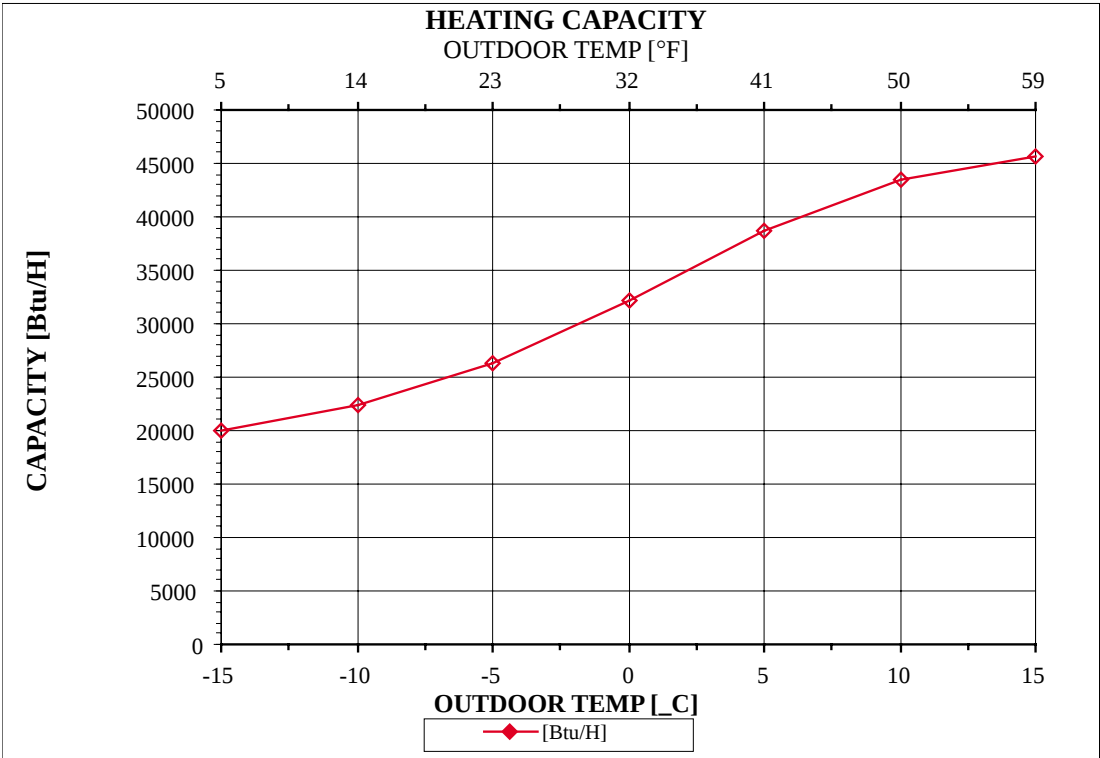
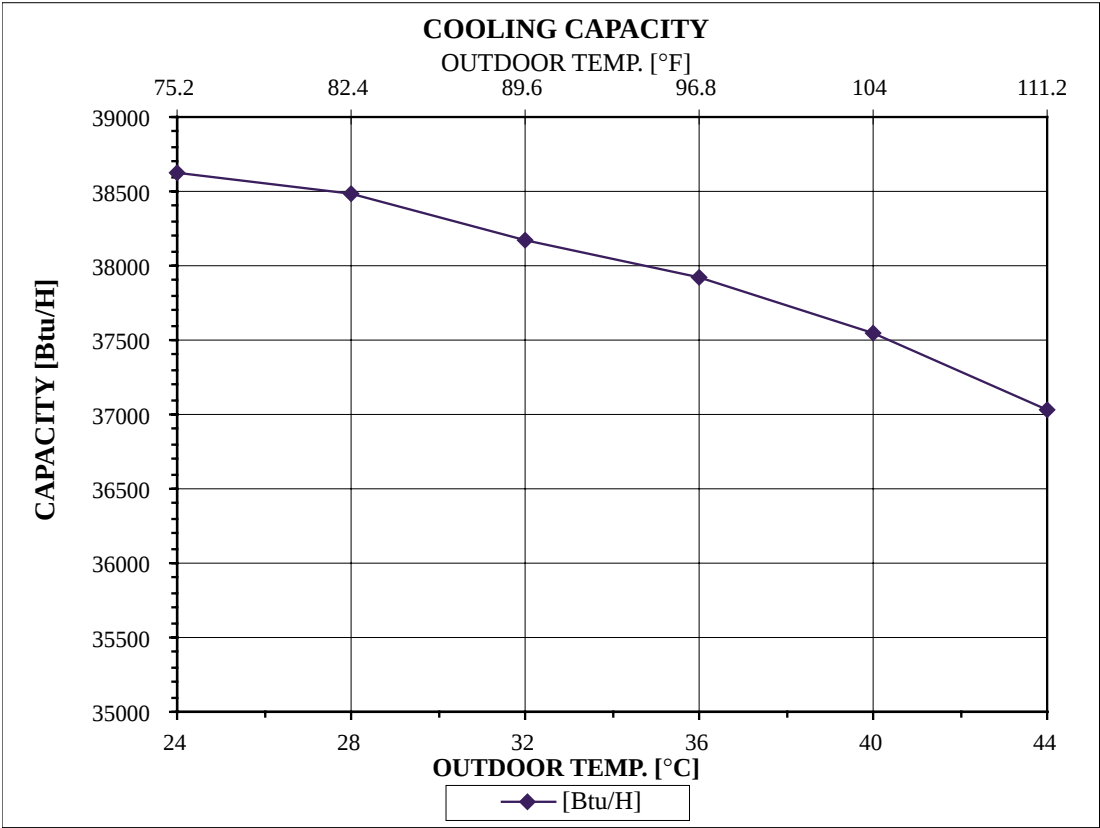
2.1.4 Cooling and Heating Capacity Curves AVL 60



* OUTDOOR R.H. = 40%
INDOOR R.H. = 47%
INDOOR TEMP. = 27 °C
MAX. AIR SPEED: TURBO

* OUTDOOR R.H. = 77%
INDOOR TEMP. = 20 °C
AIR SPEED: TURBO

2.1.5 Cooling and Heating Capacity Curves AVL 603

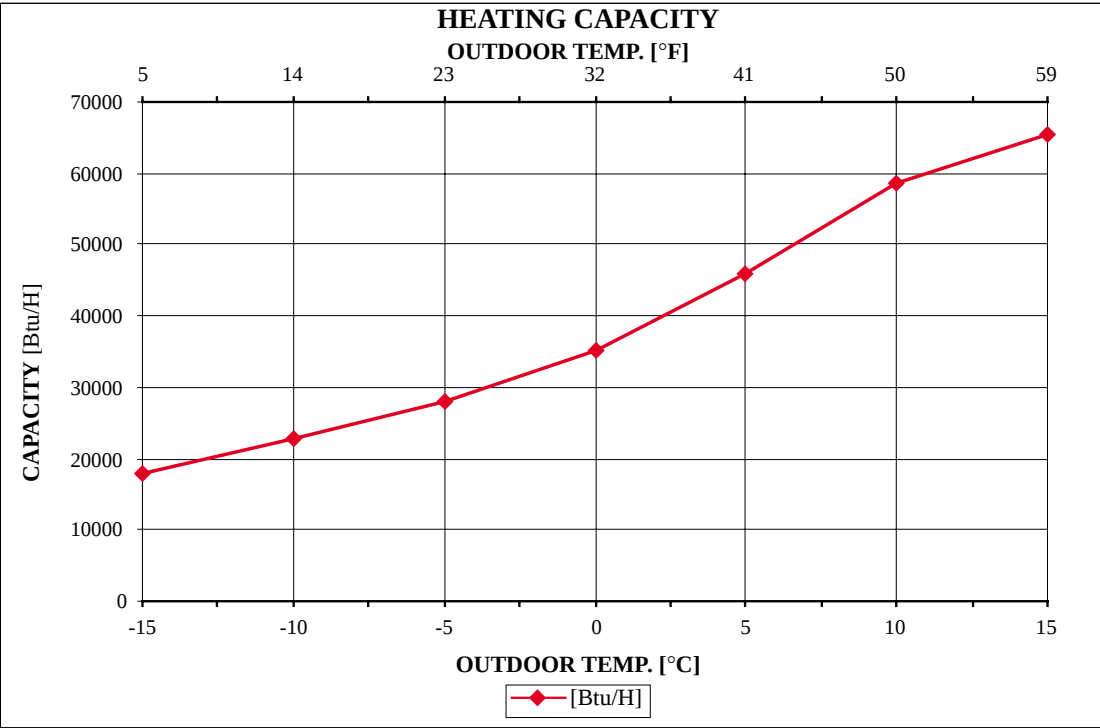
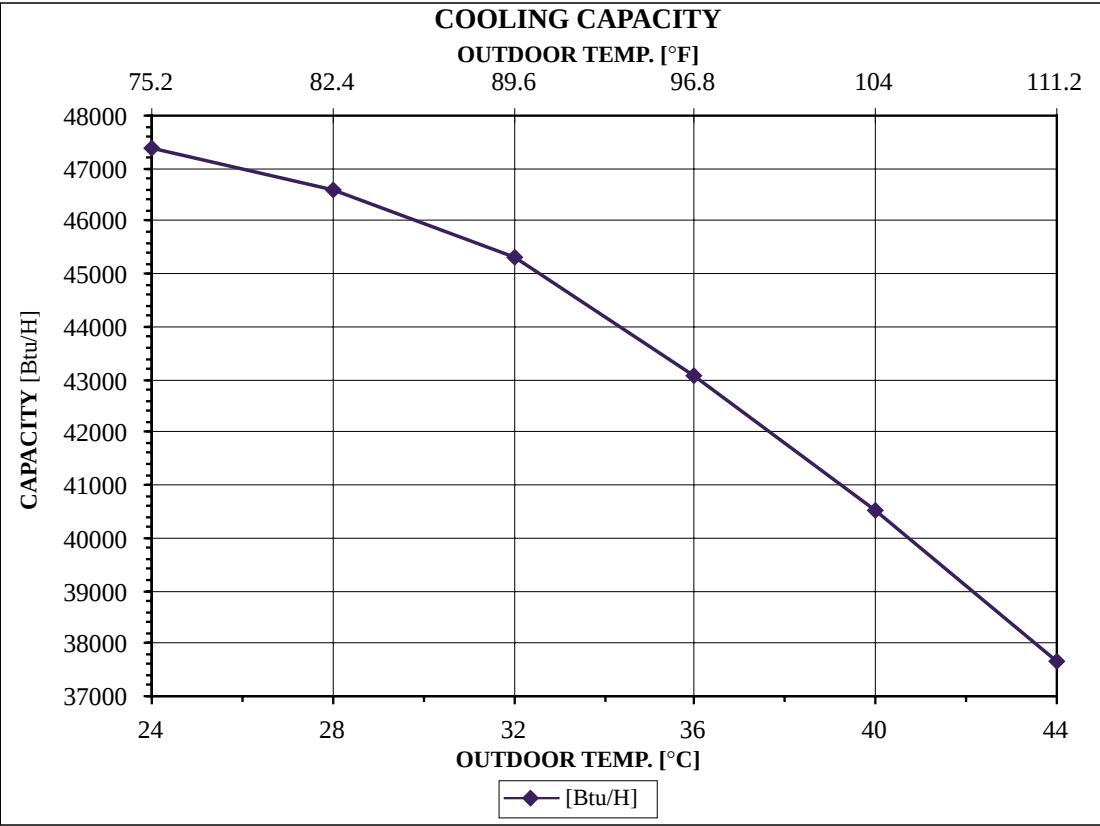


* OUTDOOR R.H. = 40%
INDOOR R.H. = 47%
INDOOR TEMP. = 27 °C
MAX. AIR SPEED: TURBO

* OUTDOOR R.H. = 77%
INDOOR TEMP. = 20 °C
AIR SPEED: TURBO

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2.1.6 Cooling and Heating Capacity Curves AVL 753

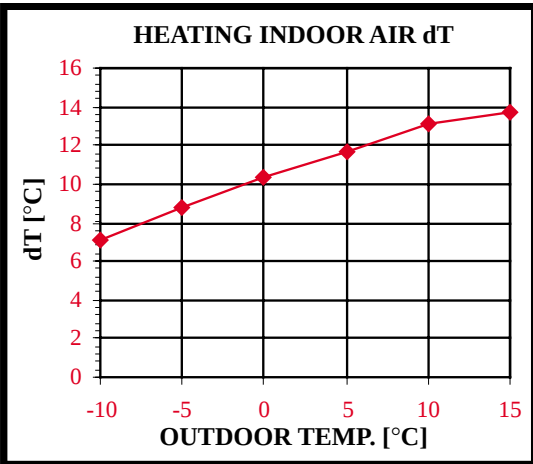
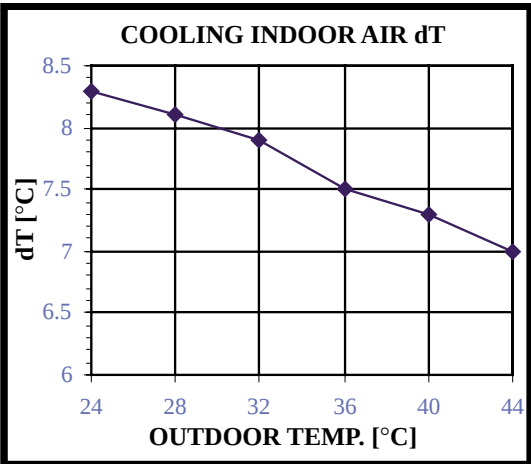
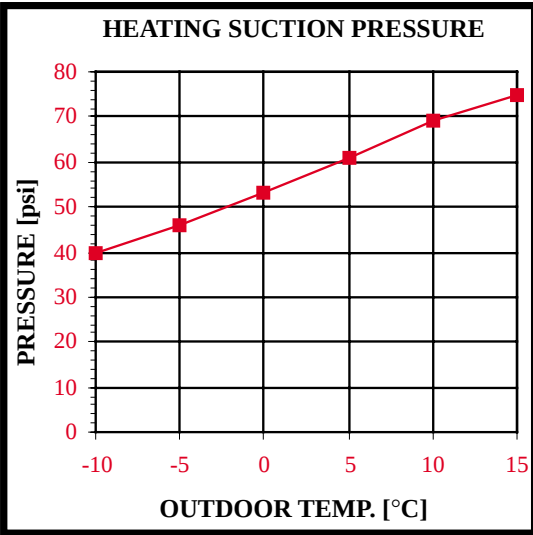
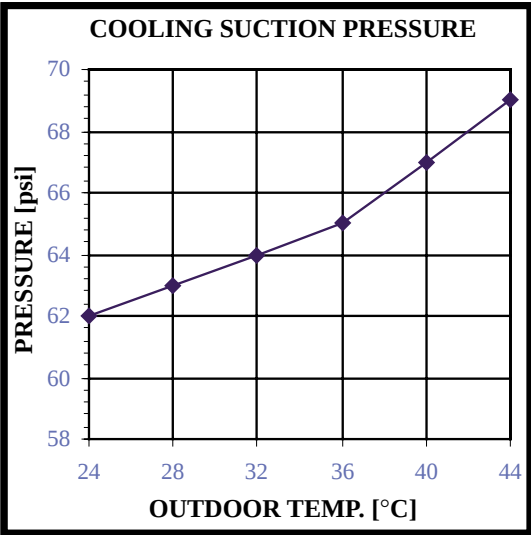
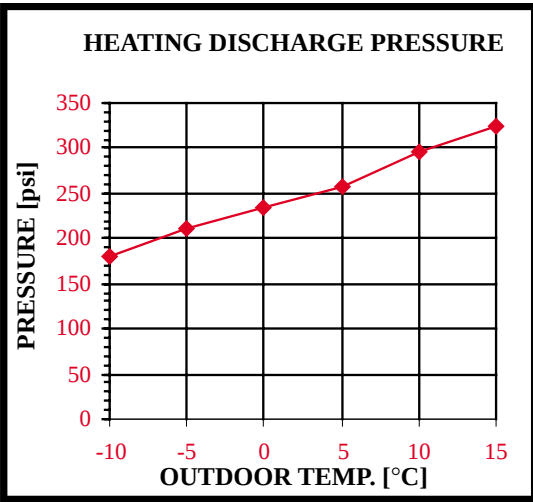
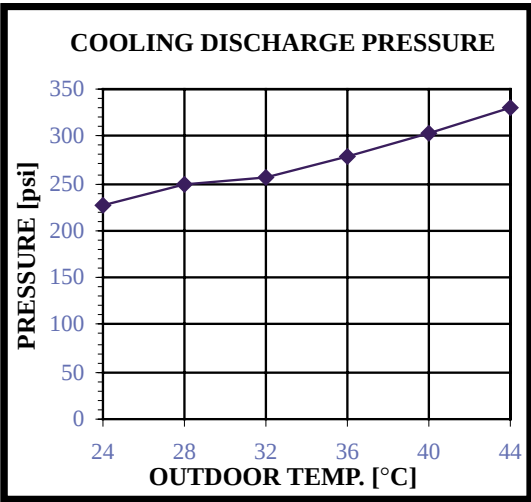


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.7 System Performance Charts AVL 25



COOLING

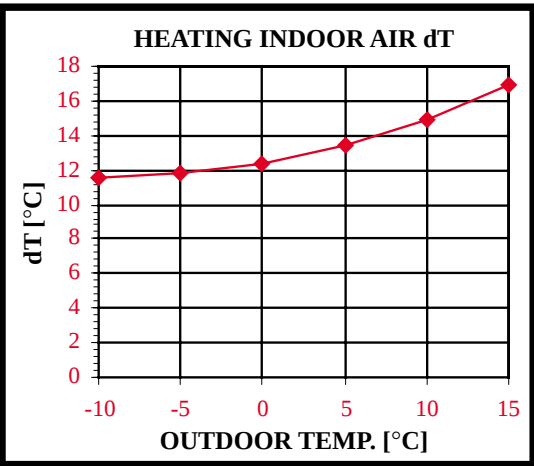
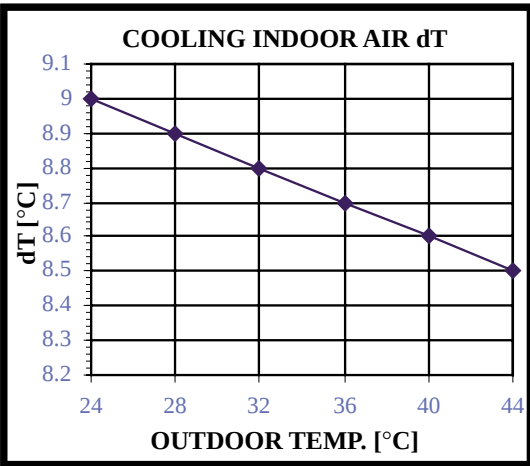
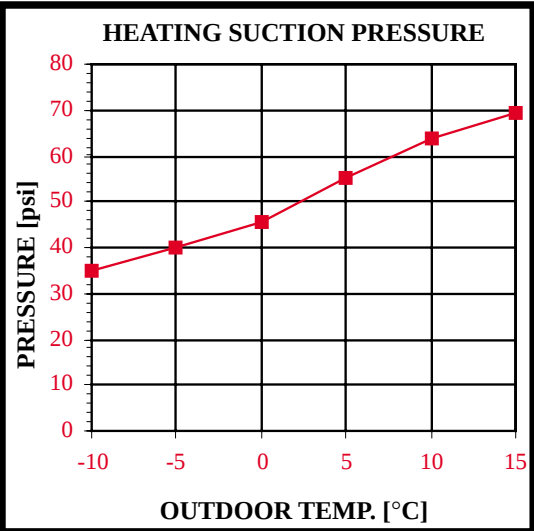
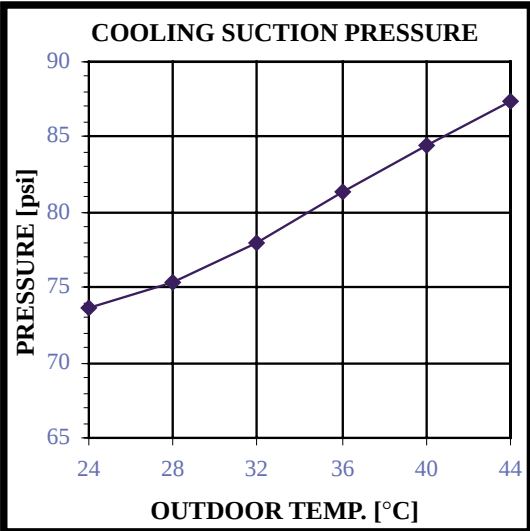
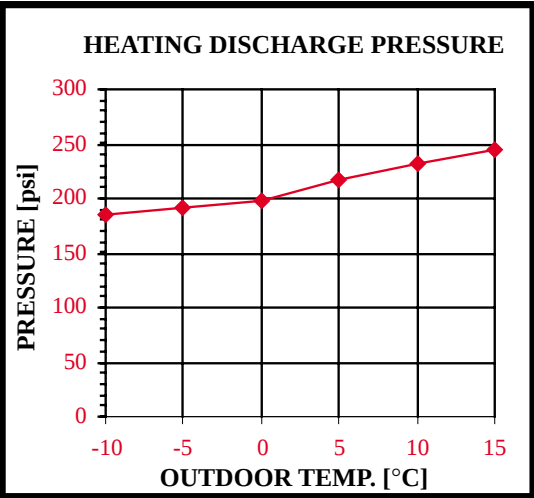
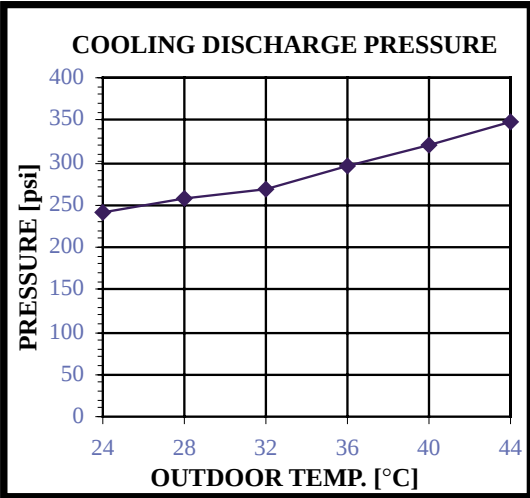
* OUTDOOR R.H. = 40%
INDOOR R.H. = 47%
INDOOR TEMP. = 27 °C
MAX. AIR SPEED: TURBO

HEATING

* OUTDOOR R.H. = 77%
INDOOR TEMP. = 20 °C
AIR SPEED: TURBO

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2.1.8 System Performance Charts AVL 35

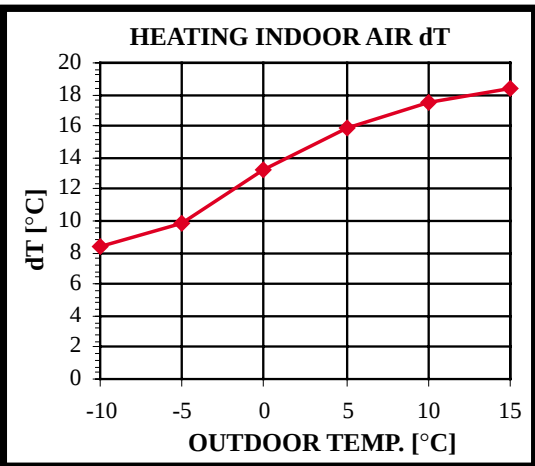
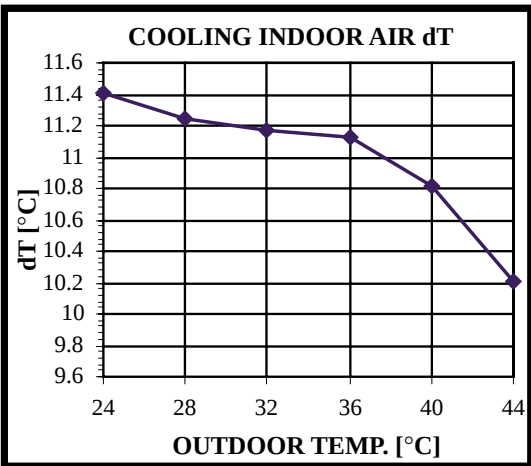
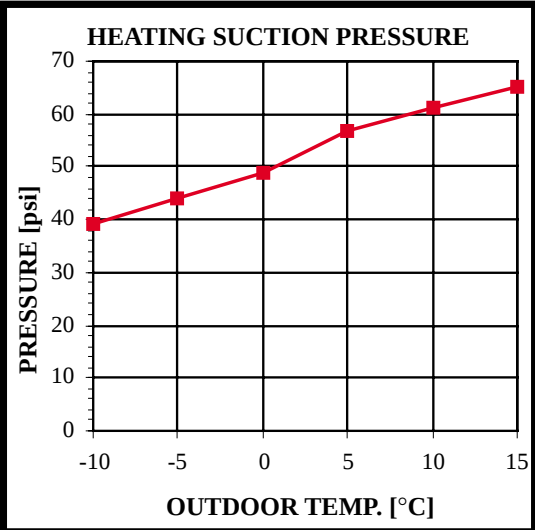
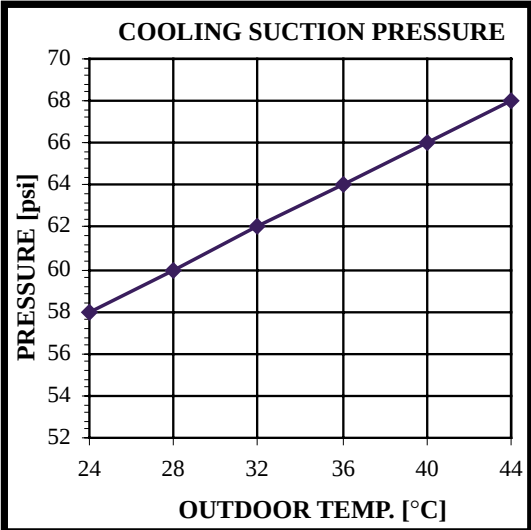
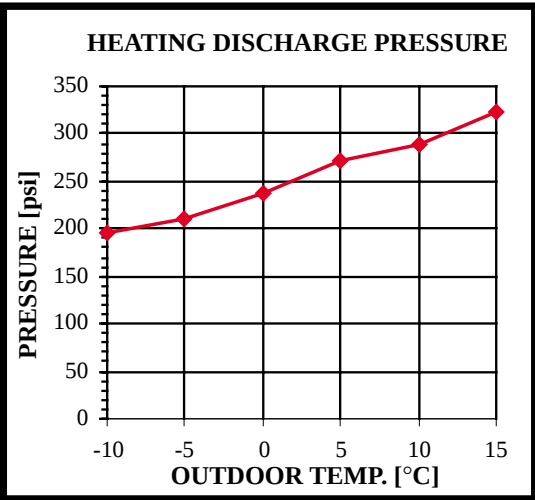
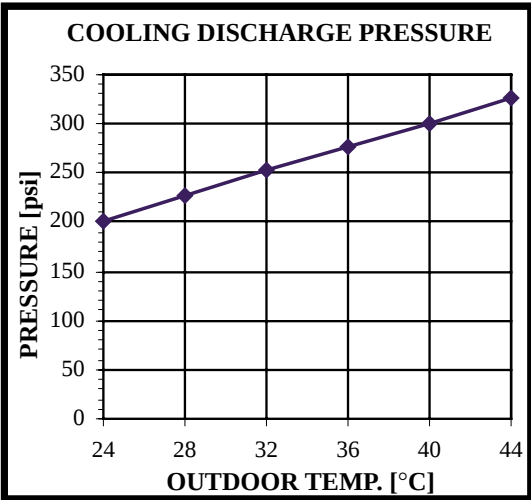


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.9 System Performance Charts AVL 50

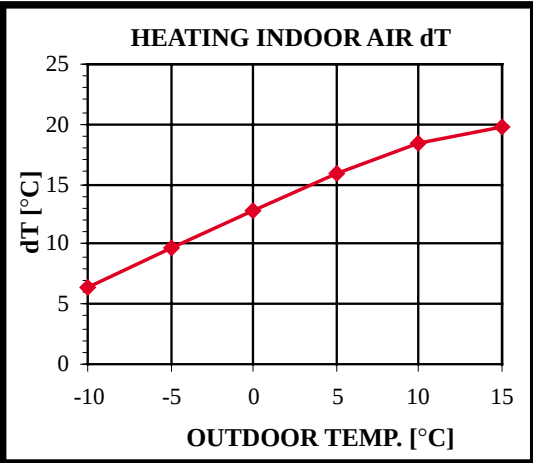
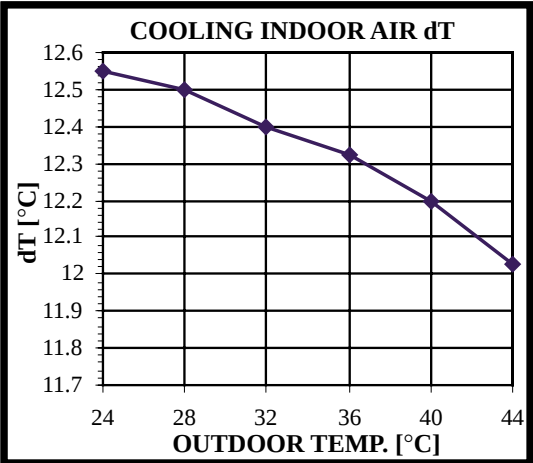
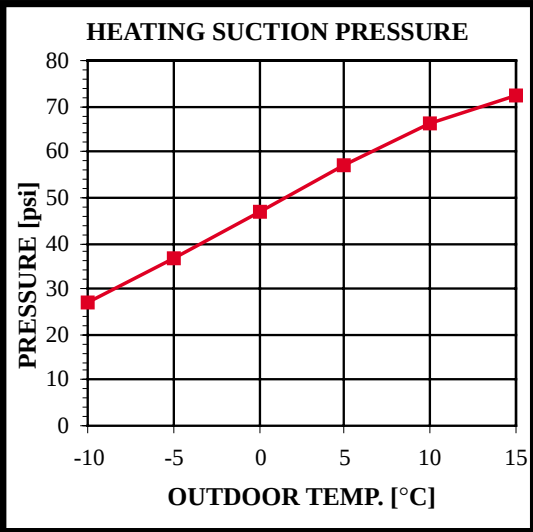
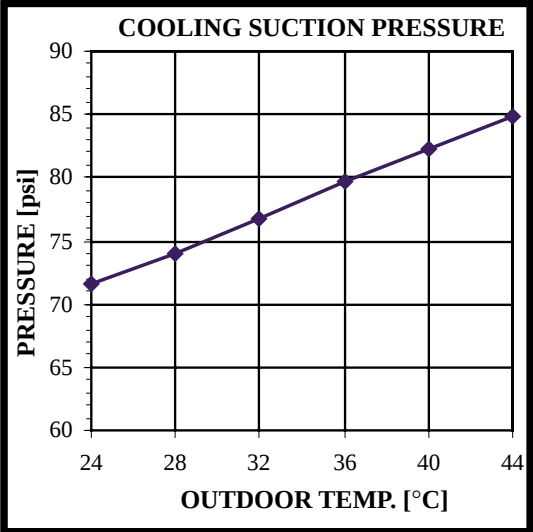
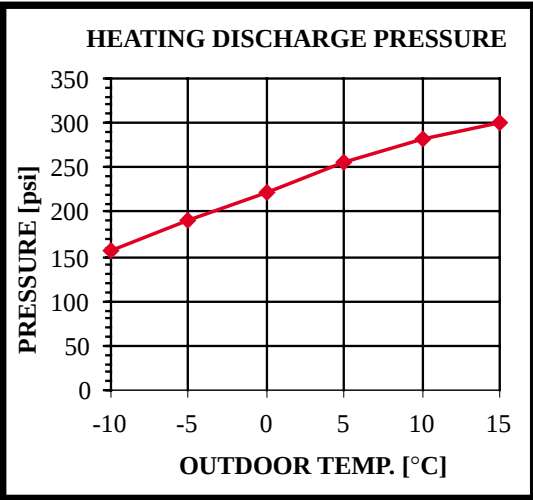
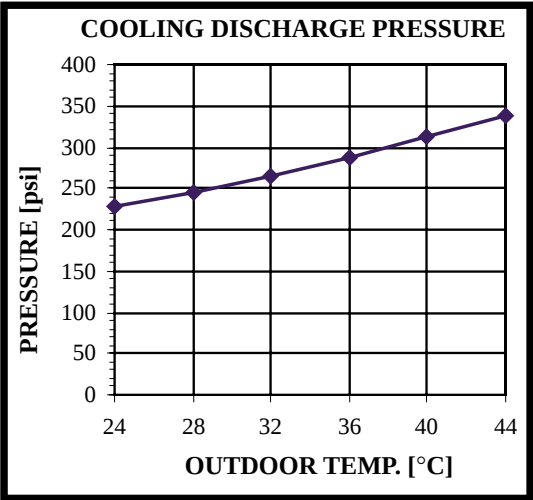


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.10 System Performance Charts AVL 60

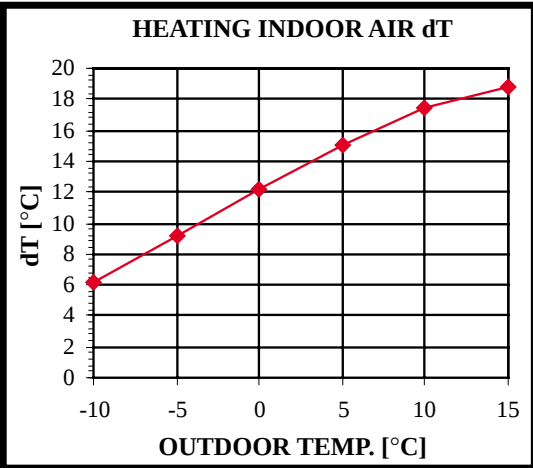
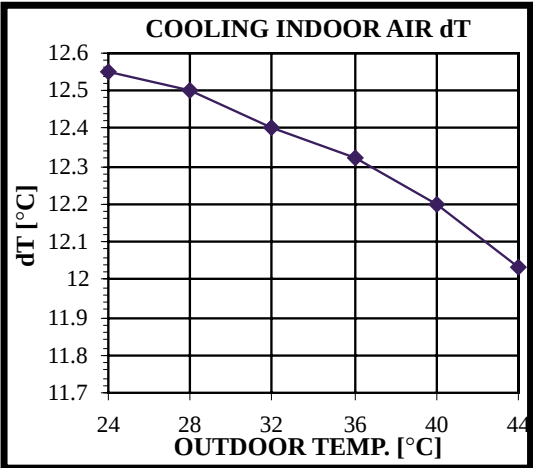
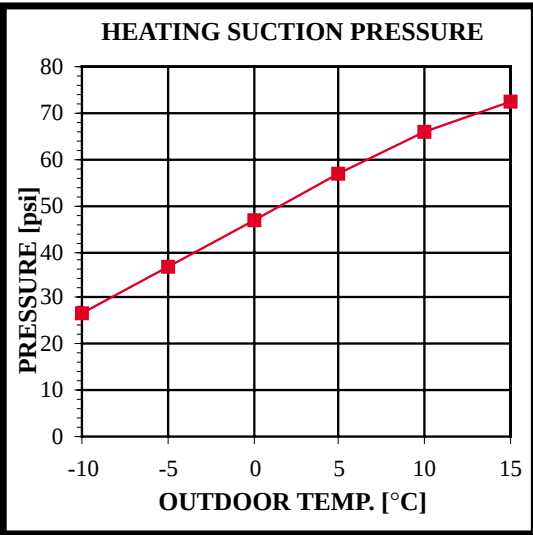
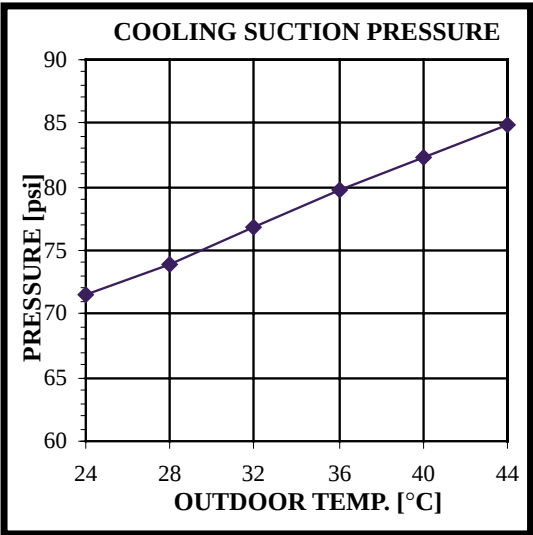
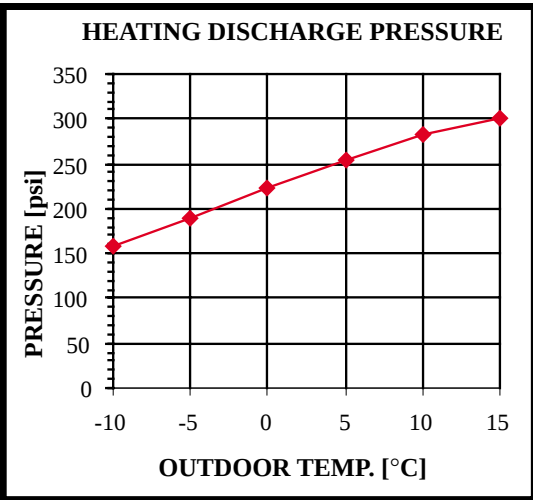
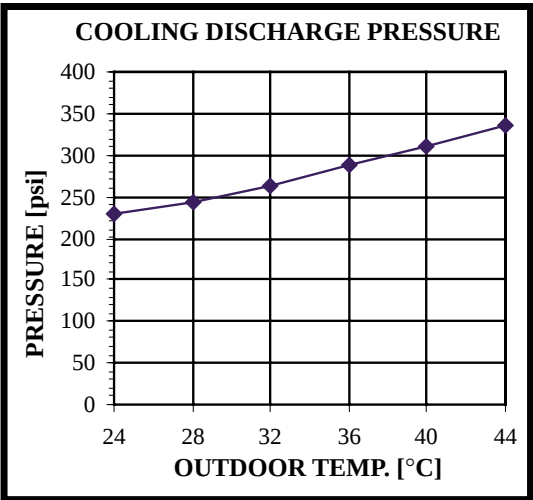


COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.1.11 System Performance Charts AVL 603



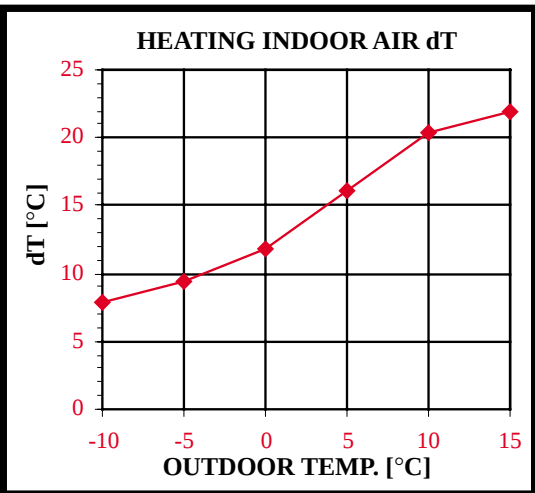
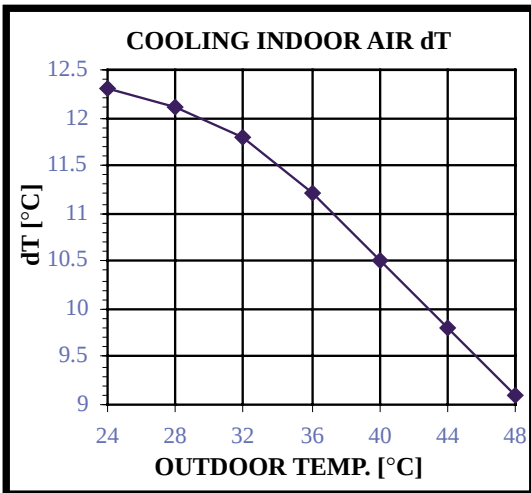
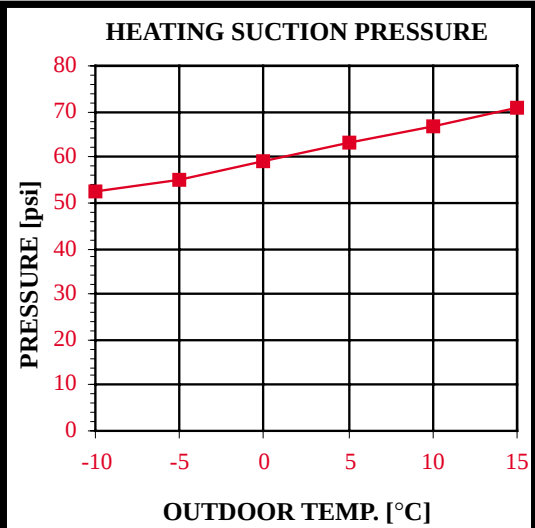
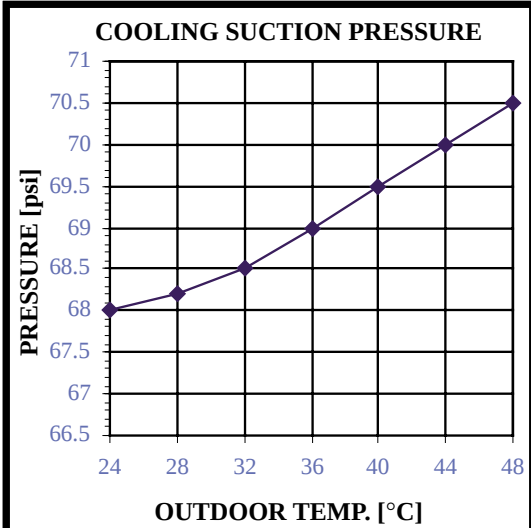
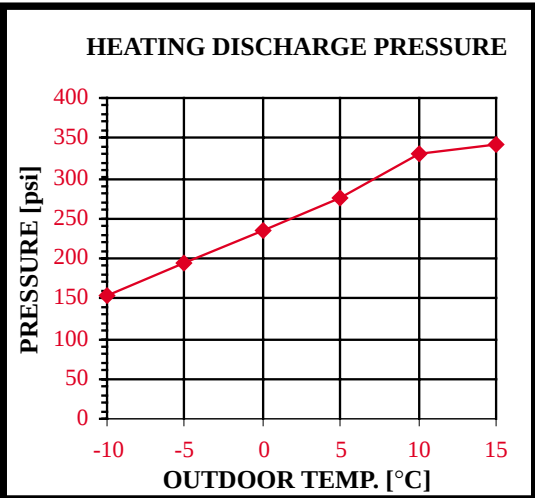
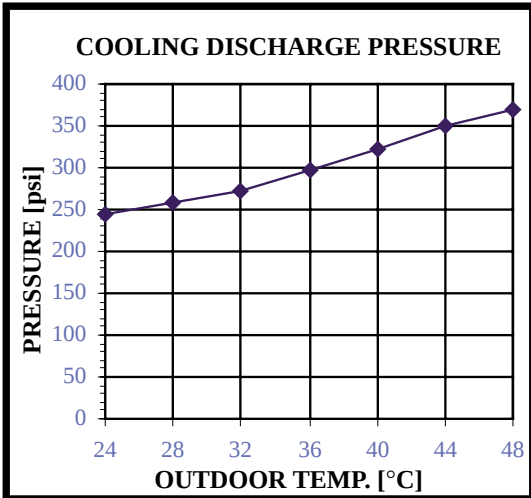
COOLING

* OUTDOOR R.H. = 40%
INDOOR R.H. = 47%
INDOOR TEMP. = 27 °C
MAX. AIR SPEED: TURBO

HEATING

* OUTDOOR R.H. = 77%
INDOOR TEMP. = 20 °C
AIR SPEED: TURBO

2.1.12 System Performance Charts AVL 753



COOLING	
* OUTDOOR R.H. =	40%
INDOOR R.H. =	47%
INDOOR TEMP. =	27 °C
MAX. AIR SPEED:	TURBO

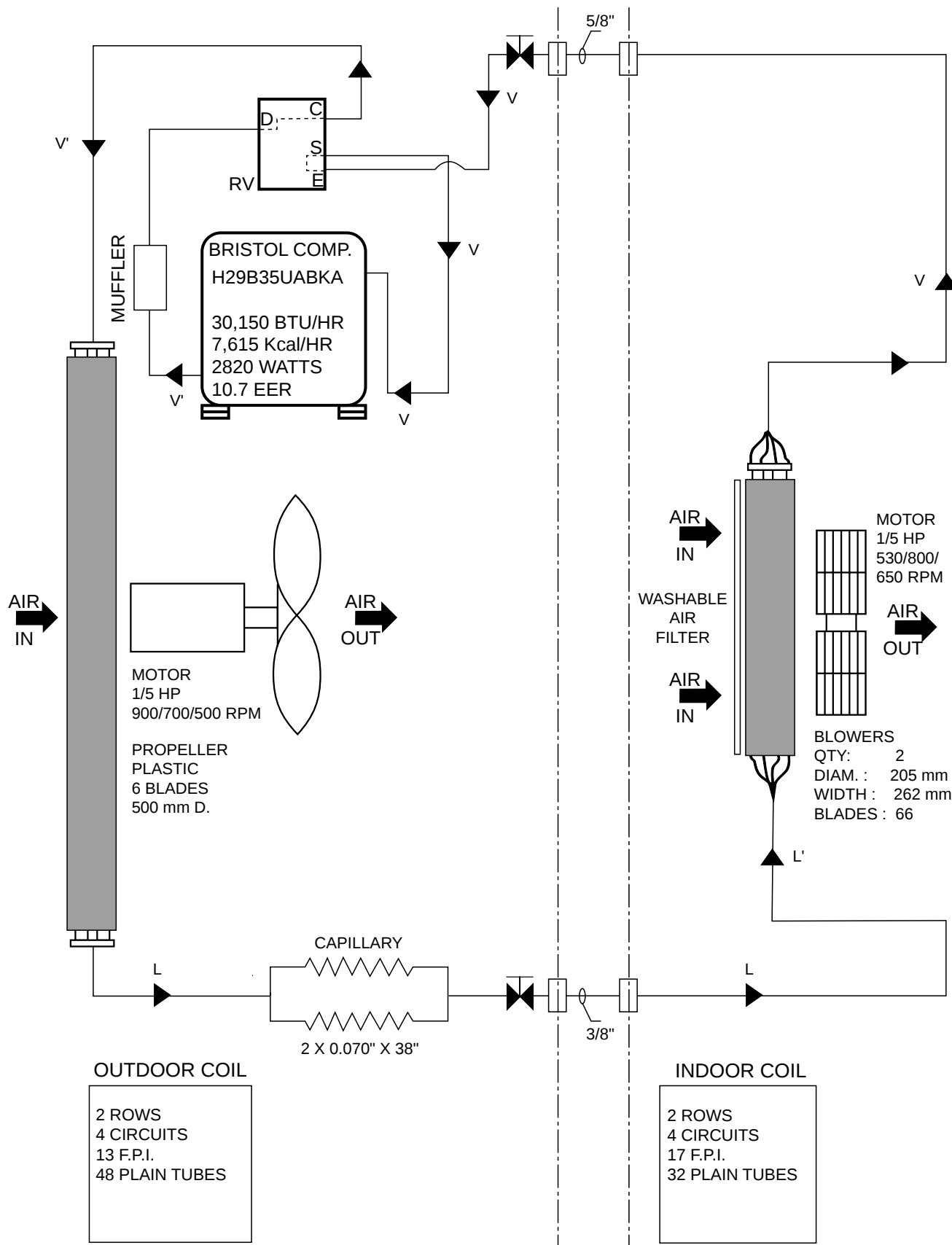
HEATING	
* OUTDOOR R.H. =	77%
INDOOR TEMP. =	20 °C
AIR SPEED:	TURBO

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2.2.1 Refrigeration Cycle AVL 25



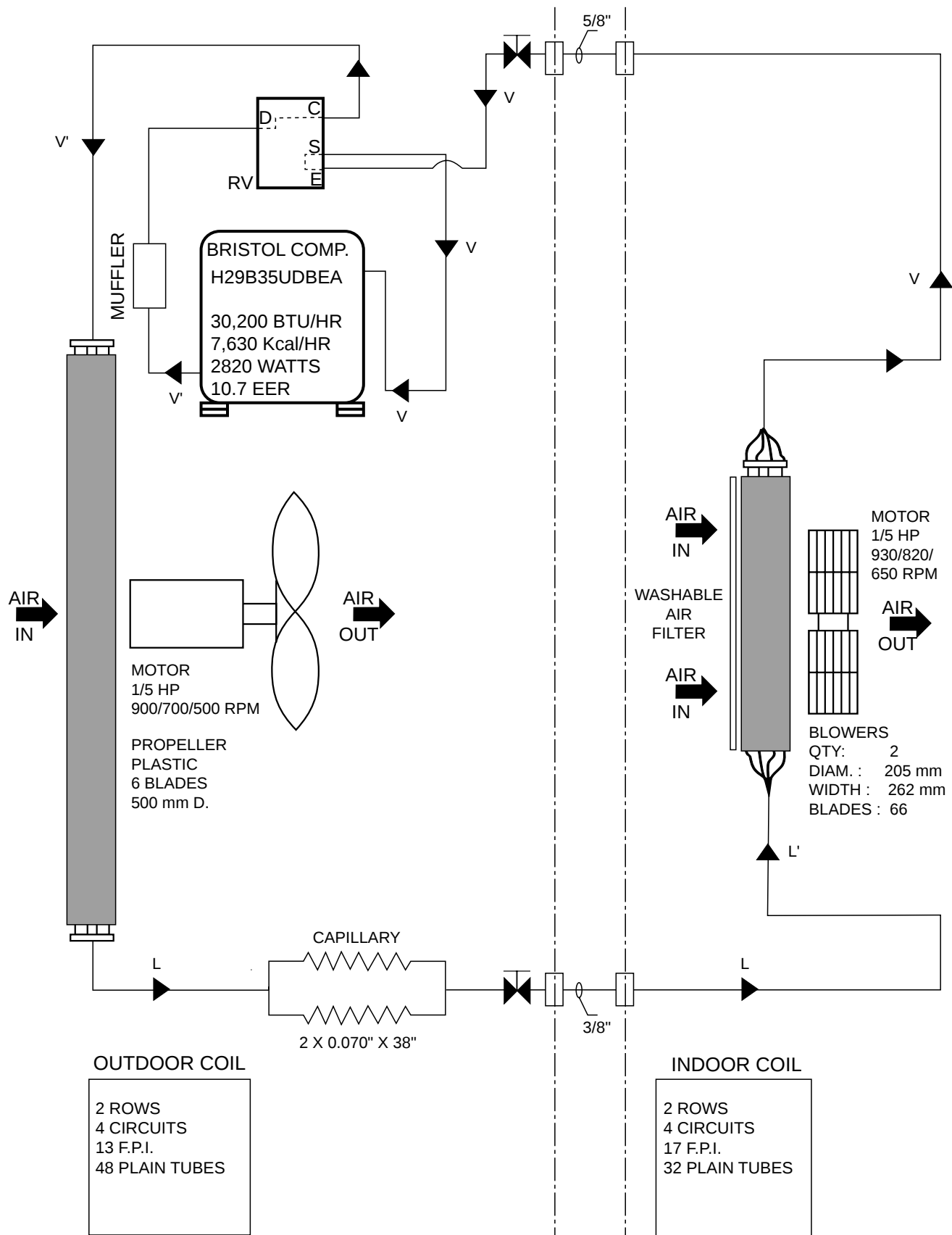
2.2.2 Refrigeration Cycle AVL 35



AUG.2000 5130-26135-87

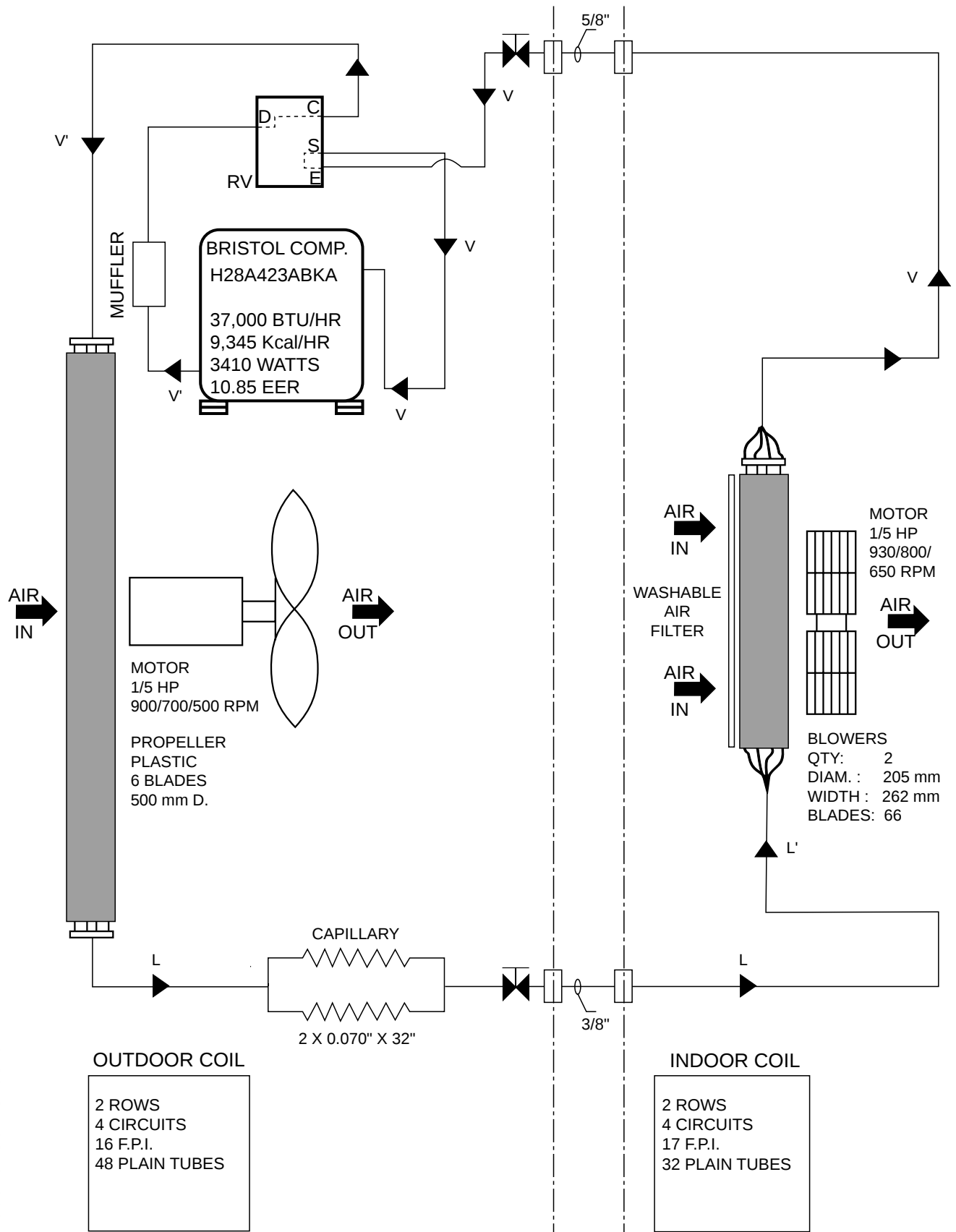
Super SKY

2.2.3 Refrigeration Cycle AVL 353



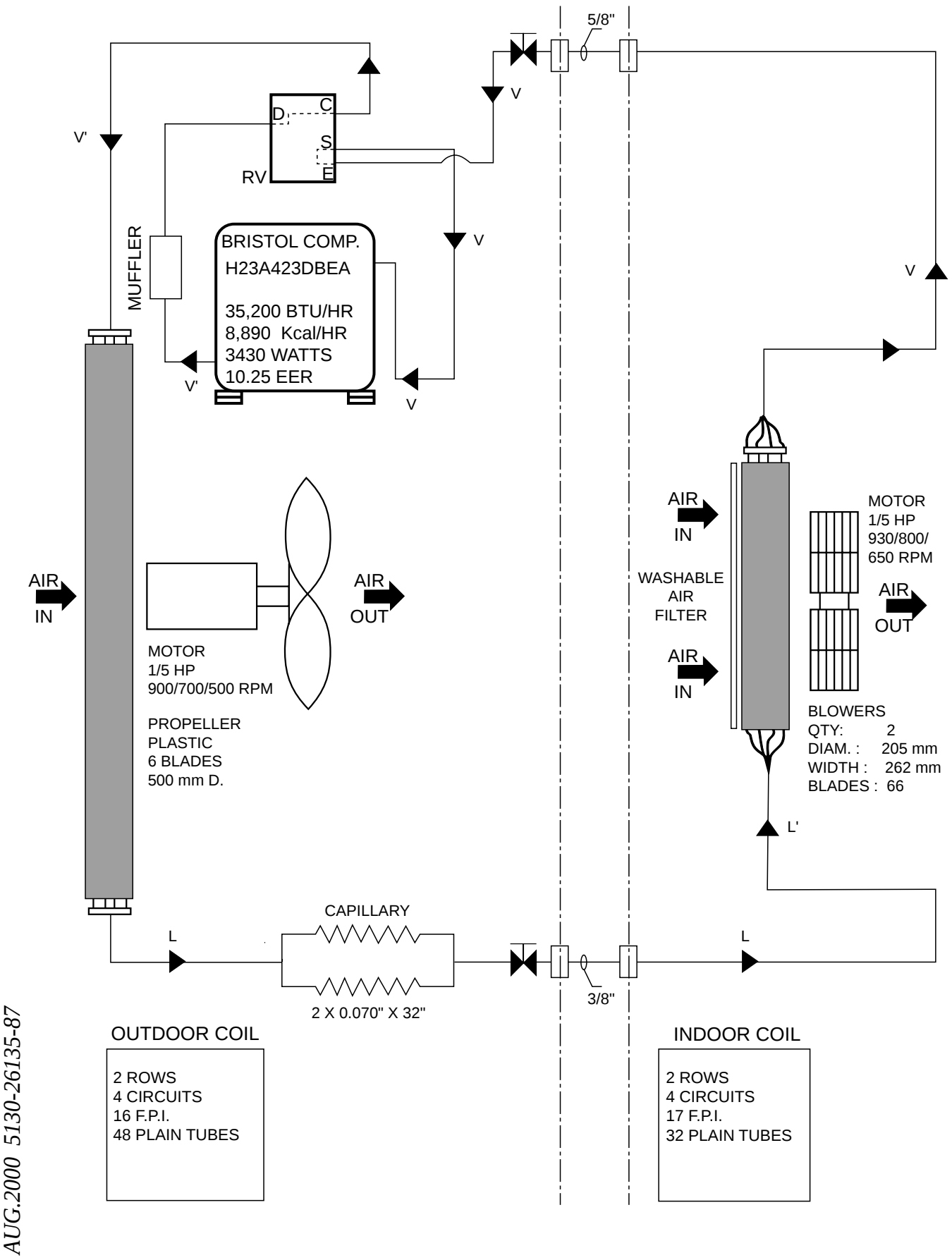
AUG.2000 5130-26135-87

2.2.4 Refrigeration Cycle AVL 50



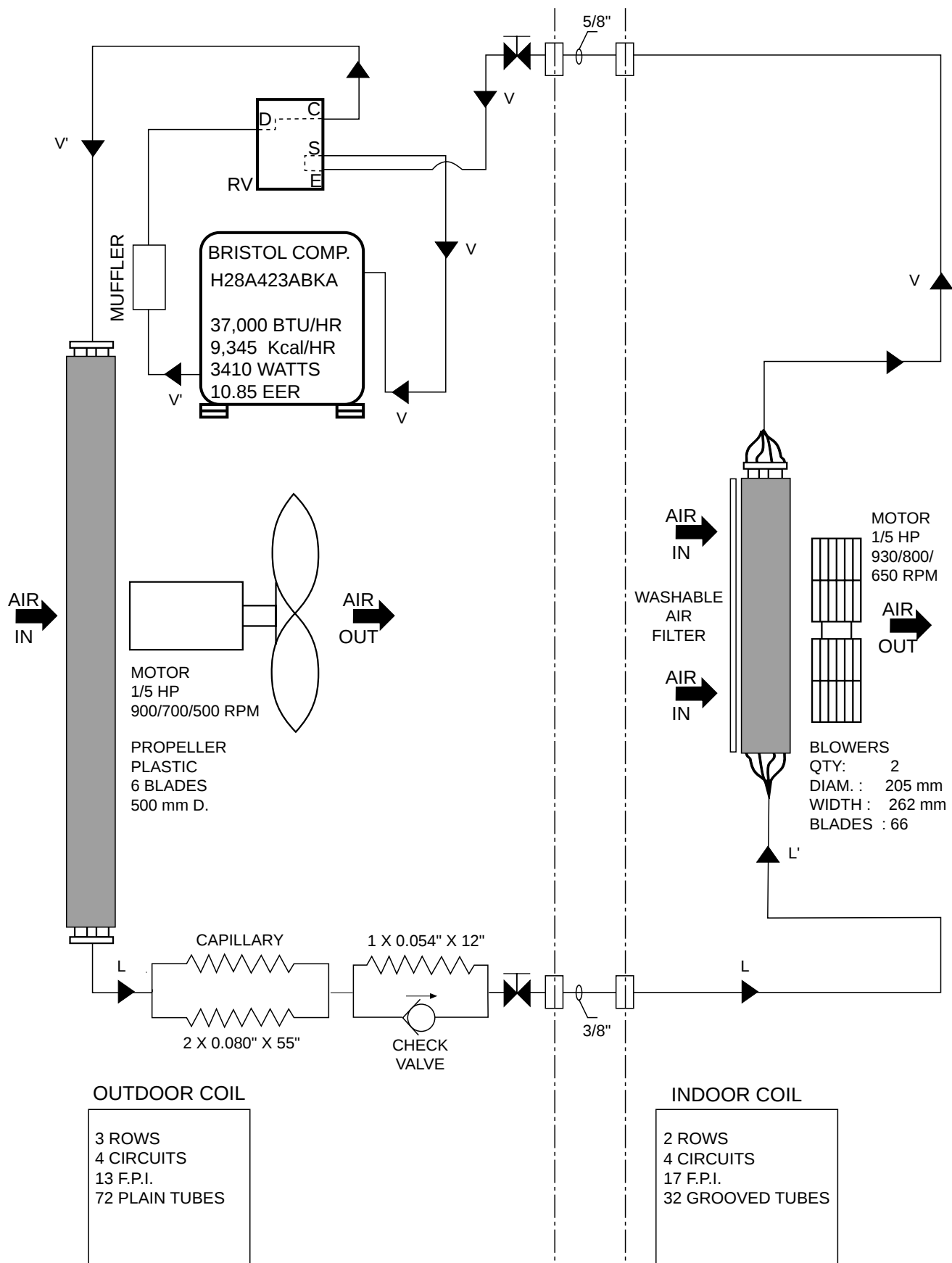
AUG.2000 5130-26135-87

2.2.5 Refrigeration Cycle AVL 503



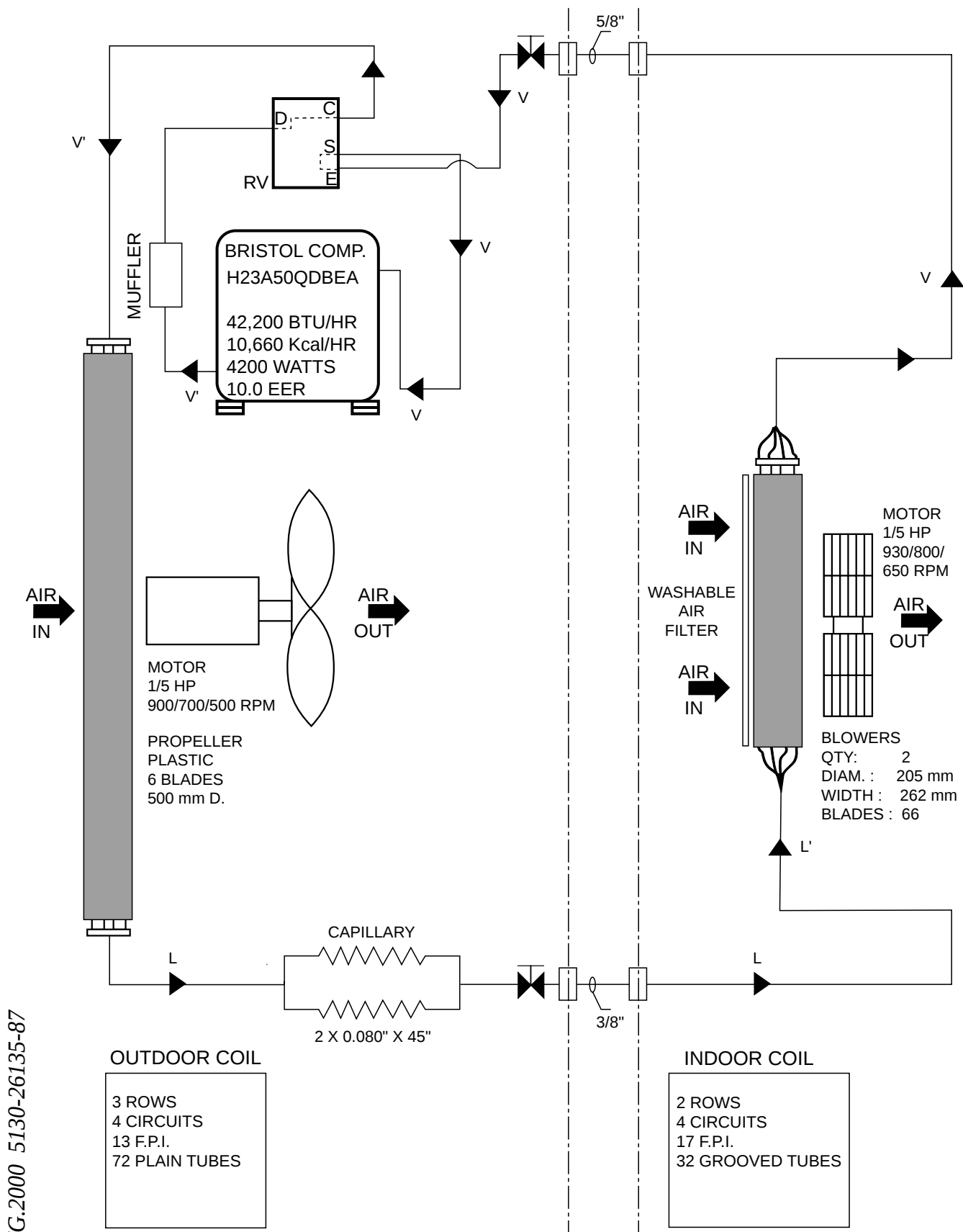
Super SKY

2.2.6 Refrigeration Cycle AVL 60



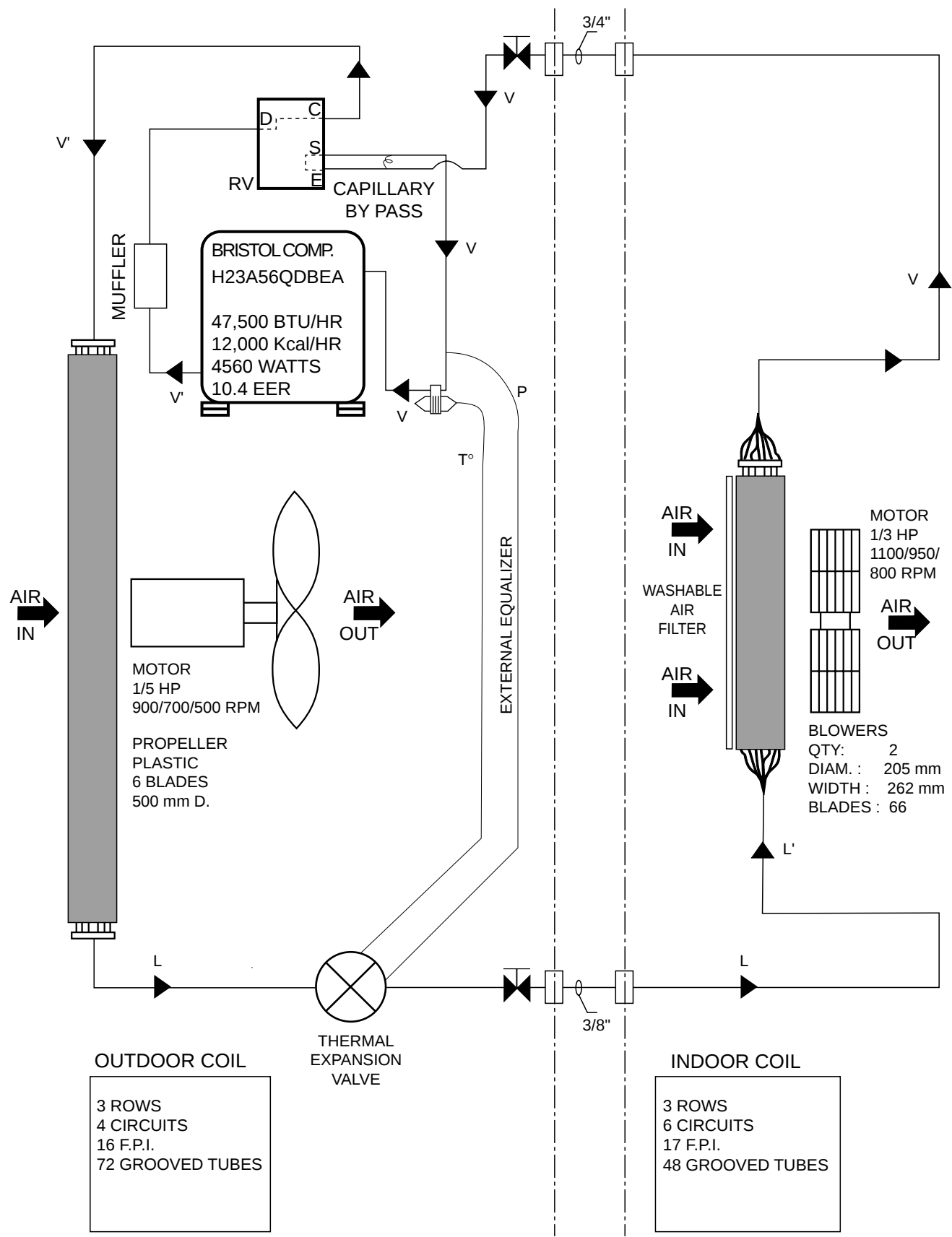
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2.2.7 Refrigeration Cycle AVL 603



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2.2.8 Refrigeration Cycle AVL 753



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2.3 AVL – Low Profile Ducted Mini Central Unit

1. Unlike most Tadiran indoor (evaporator) models, the AVL must be installed in level position.
2. Electrical connections: power cord and interconnecting wiring according to the model size (detailed information is inside the installation procedure).
3. Piping connections: the valves are fixated to the indoor unit allowing manipulation of the valves using single wrench.
4. Evaporator adjustment: the rear tubing outlet allows left and right installation using the same indoor unit, canceling the need for left and right (different) evaporators.
5. Airflow distribution: If all outlets are open and have the same duct length, the air distribution will be equal for all ducts.
6. Air suction (inlet): three options available for return air – back, top or bottom according to the customer request or according to the reality in the field.
7. Air outlet: many options available for the size and the direction of the ducts to be installed with the evaporator.

Front: 3 outlets of 8" or 10" for your choice.

(Both) Sides: single outlet of 10" or 12" for your choice.

Top cover: single outlet of 10".

With the AVL, five flexible duct adapters are supplied (three for 10" and two for 12"). After opening the required outlets, adjust each adapter according to the outlet size. The adapters can be easily adjusted by tightening the adapter ring to the requested diameter. First, you must measure the outlet and only then to adjust the flexible duct adapter.

2.3.1 Installation:

2.3.1.1 Cleaning & Replacing the Filters

Three anti-bacterial (mildew proof) filters in plastic frame that can be easily & quickly removed. The filters are inserted into the metal protection (safety) net.

2.3.1.2 Fittings Fixation

The valves are fixated to the evaporator itself. This allows fixing the valves using single wrench. All models tubing are 3/8" and 5/8" except AVL-75 that equipped with 3/8" and 3/4" tubes. You may use additional wrench for the 3/4" fitting.

2.3.1.3 Replacing the TH-1 (return/intake air sensor)

During TH-1 replacement, removal of the protection (safety) net is

required. Open the rear upper/bottom cover and remove the net with the filters. To remove the net, you can open the cover only partially by unscrewing two rear bolts.

Note: If fresh air possibility is applied, make sure that TH-1 is located near the indoor fan motor and not near the fresh air entrance to prevent false set point readings.

2.3.1.4 Replacing the TH-2 (indoor coil temperature sensor)

During TH-2 replacement, removal of the service door is required. After removing the service door, insert your hand toward the coil and carefully remove the TH-2 sensor from the metal sleeve on the coil. Insert the new TH-2 back to the metal sleeve through the service door and the existing wiring routing.

2.3.1.5 Gas Leak Check

- Open the service door and check for leaks through the service door near the manifolds and the right side of the coil.
- Remove one of the air outlets and check for leaks upon the entire indoor coil.
- Open the front upper cover and check for leaks upon the entire indoor coil.

2.3.1.6 Replacing Indoor Fan Motor Capacitor

During the indoor fan motor capacitor replacement, removal of the protection (safety) net is required. Open the rear upper/bottom cover and remove the net with the filters. To remove the net, you can open the cover only partially by unscrewing two rear bolts.

Disconnect the indoor fan motor from the electronic control and disconnect the wire connected to the motor capacitor. The fan deck assembly (including the fan motor) is attached with four screws to the evaporator body.

Open the four screws that join the central fan deck to the left and right decks. Now, the fan deck can be easily removed (with the indoor fan motor) from the evaporator.

Note: There are additional four screws on the fan deck assembly that strengthens the coil to the left and right fan decks. You should never open these screws during disassembling of the central fan deck! If possible, it is recommended to open one of the rear top or bottom

covers to facilitate the replacement or testing of the fan deck assembly. To install back the fan deck assembly to its proper position, locate the fan deck assembly so the slot (groove) will be assembled on the metal jut that exist in front top & bottom covers. This jut is visible in any position allowing easy positioning if the fan deck assembly into his proper position, and fasten the covers to the evaporator body.

2.3.1.7 Replacing Indoor Coil

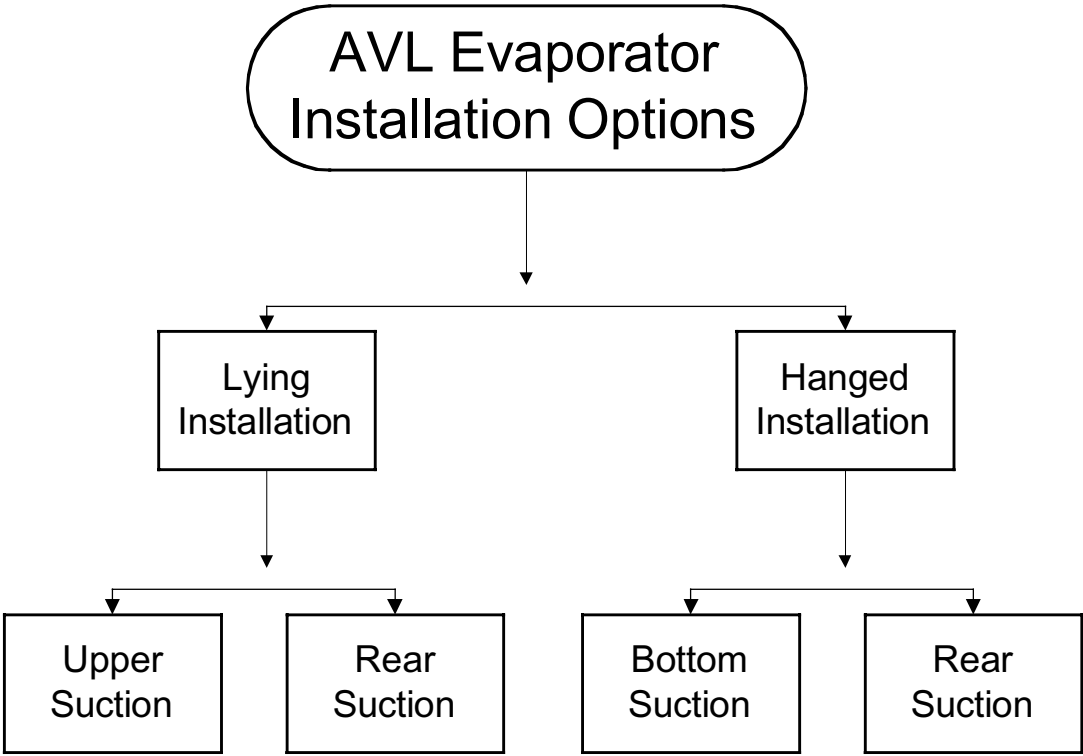
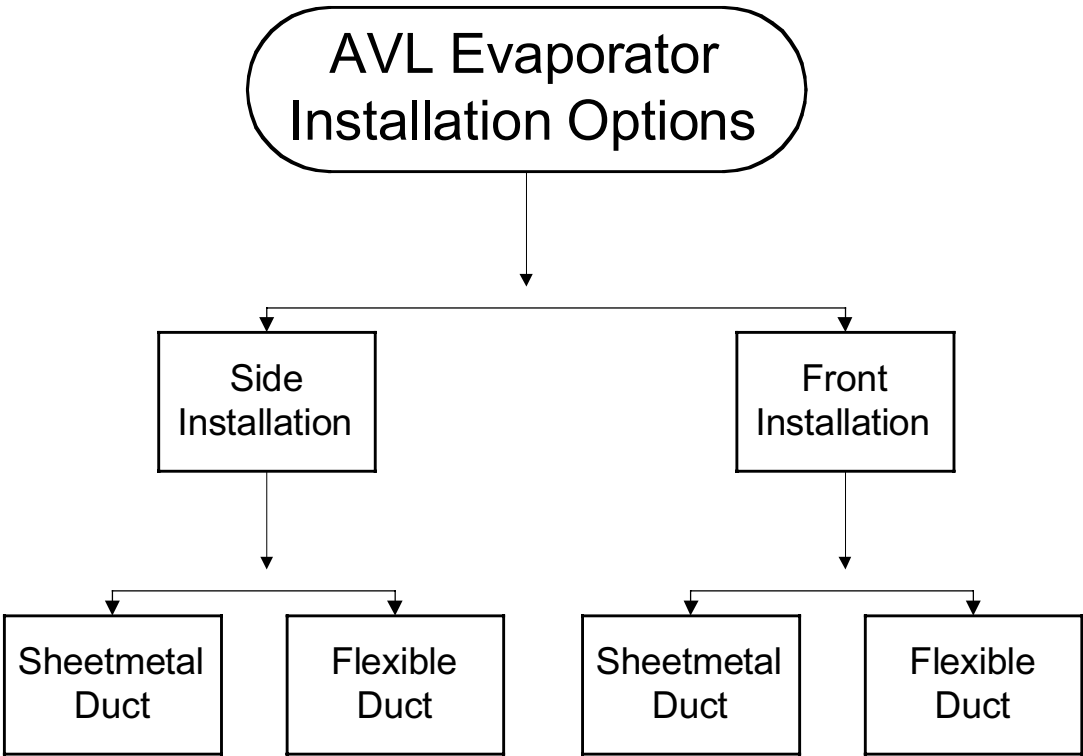
During the indoor coil replacement, removal of the front upper or lower cover and the protection (safety) net is required. The coil is attached to the evaporator body in few locations:

- Fittings (4 screws of the right fan deck),
- Central fan deck base (4 screws),
- Metal jut on the drain pan (attach the evaporator coil to the drain pan).

Note: If the coil removed from the bottom cover, first you must remove the drain pan.

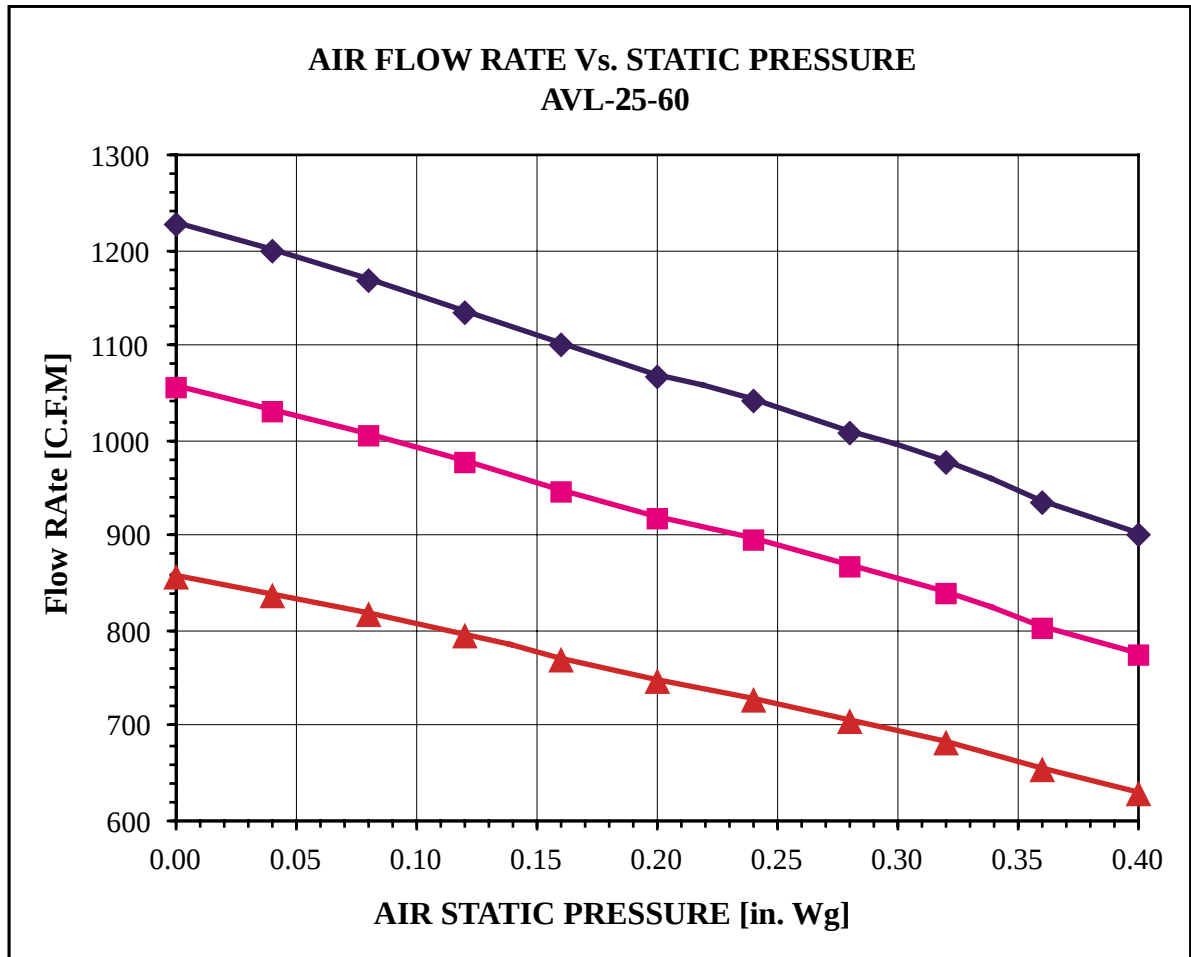
2.3.1.8 Fresh Air:

Fresh air inlets of 4" are available on both sides of the evaporator.

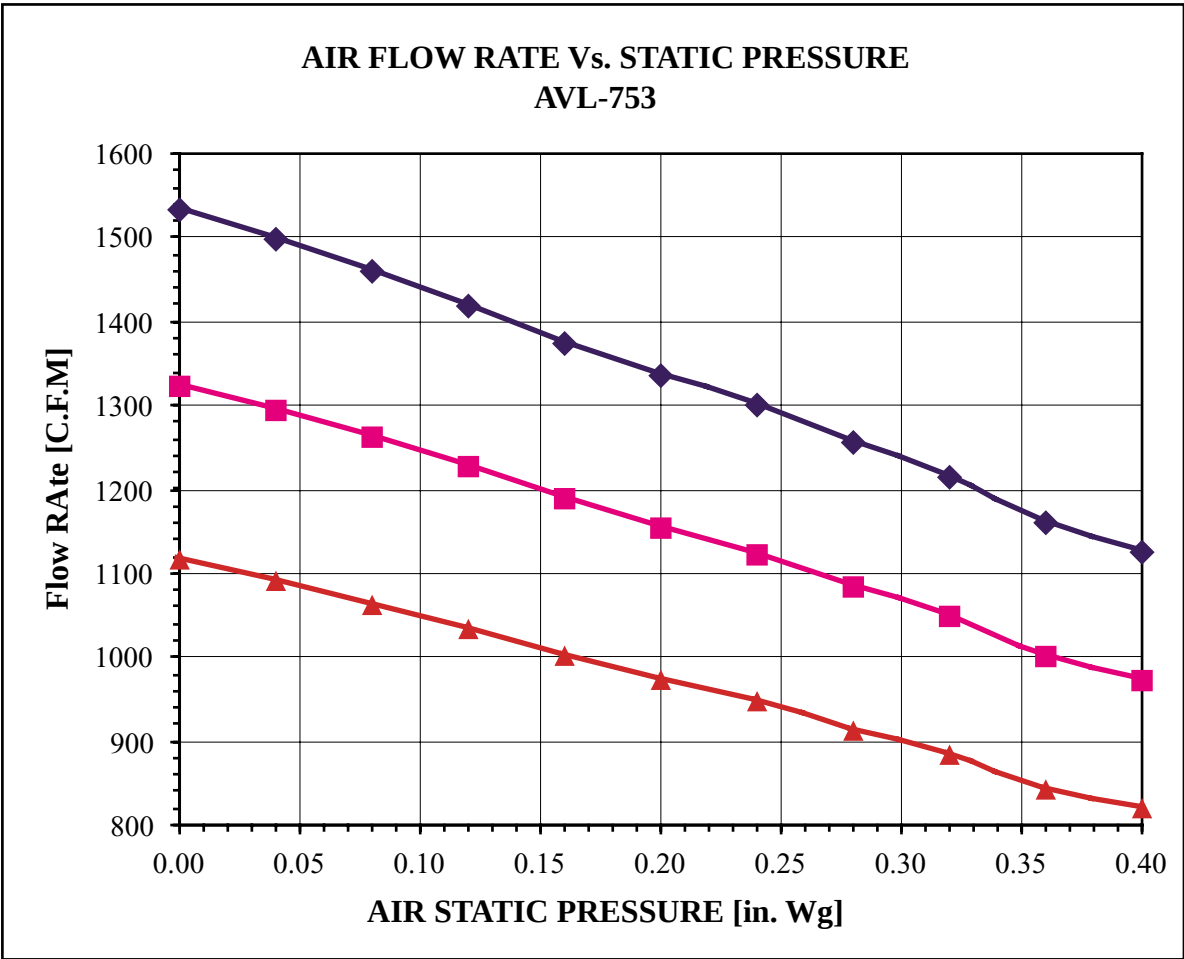


2.4 Air Flow Curves

2.4.1 Air flow Curves AVL 25 / AVL 35 / AVL 50 / AVL 60



2.4.2 Air flow Curves AVL 753



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2.5.1 AVL 1 PH



