



Service Manual

WNG LED/LCD Series

Indoor Units	Outdoor Units	
WNG 7	GCN 7	ONG 7
WNG 9	GCN 9	ONG 9
WNG 12	GCN 12	ONG 12
WNG 14	GC 14	ONG 14
WNG 18	GC 18	—
WNG 21	GC 22	—
WNG 24	OU7-24	—
	OU7-24Z	—
WNG 25	GC 24	—
WNG 30	GC 30	OU8 30/33
WNG 36	OU10-36	—



REFRIGERANT

R410A

R407C

R22

COOLING ONLY

HEAT PUMP

JUNE 2007

LIST OF EFFECTIVE PAGES

Note: Changes in the pages are indicated by a “Revision#” in the footer of each effected page (when none indicates no changes in the relevant page). All pages in the following list represent effected/ non effected pages divided by chapters.

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**Photos are not contractual.

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1. INTRODUCTION

1.1 General

The new **WNG** split wall mounted range comprise the ST (cooling only) and RC (heat pump) models, as follows:

- **Cooling Only** WNG 7ST, WNG 9ST, WNG 12ST, WNG 14ST,
WNG 18ST, WNG 21ST, WNG 24ST, WNG 30ST, WNG 36ST
- **Heat Pump** WNG 7RC, WNG 9RC, WNG 12RC, WNG 14RC,
WNG 18RC, WNG 21RC, WNG 24RC, WNG 30RC, WNG 36RC

The indoor WNG units are available as LED or LCD display types, featuring esthetic design, compact dimensions, and low noise operation.

Display type models availability:

- **LED / LCD Type** WNG7, WNG9, WNG12, WNG14, WNG18, WNG21, WNG24
- **LCD Type** WNG30, WNG36

1.2 Main Features

The WNG series benefits from the most advanced technological innovations, namely:

- R22, R407C and R410A models
- Microprocessor control.
- Infrared remote control with liquid crystal display.
- Supports Indoor Air Quality features, such as – Ionizer, Active Electro-Static Filter, and Fresh Air.
- Indoor large diameter cross flow fan, allowing low noise level operation.
- Bended indoor coil with treated aluminum fins and coating for improved efficiency.
- High COP.
- Easy access to the interconnecting tubing and wiring connections, so that removing the front grill or casing is not necessary.
- Refrigerant pipes can be connected to the indoor unit from 5 different optional directions.
- The WNG18/24/30 are equipped with a flexible corrugated copper suction tube allowing easy bending by the installer without the necessity to use special equipment.
- Water condensate tray is equipped with two optional drain connections.
- Automatic treated air sweep.
- Low indoor and outdoor noise levels.
- Easy installation and service.

1.3 Indoor Unit

The indoor unit is wall mounted, and can be easily fitted to many types of residential and commercial applications.

It includes:

- Casing with air inlet and outlet grills.
- A large-diameter tangential fan.
- Bended coil with treated aluminum fins.
- Motorized flaps (dual air sweeping for LCD type)
- Multi-speed motor with internal protection (P.G. motor for LCD type).
- Advanced electronic control box assembly
- Interconnecting wiring terminal block
- Mounting plate

1.4 Filtration

The WNG series presents several types of air filters:

- Easily accessible, and re-usable pre-filters (mesh)
- Pre-charged electrostatic filter (disposable)
- Active carbon filter (disposable)
- ESF. Active Electro Static re-usable filter (optional)

1.5 Ionizer (Optional)

A special design Ionizer protected by unique patents integrated into the indoor unit, generating negative ions to the room providing comfort and upgraded indoor air quality.

1.6 Control

The microprocessor indoor controller, and an infrared remote control, supplied as standard, provide complete operating function and programming. For further details please refer to the Operation Manual, Appendix A.

1.7 Outdoor Unit

The WNG outdoor units can be installed as floor or wall mounted units by using a wall supporting bracket. The metal sheets are protected by anti- corrosion paint work allowing long life resistance. All outdoor units are pre-charged. For further information please refer to the Product Data Sheet, Chapter 2.

It includes :

- Axial fan.
- Outdoor coil with hydrophilic louver fins for RC units.
- Outlet air fan grill.
- Service valves" flare" type connection.
- Interconnecting wiring terminal block.
- Fresh air motor for WNG 7-14 (optional).

1.8 Tubing Connections

Flare type interconnecting tubing to be produced on site.
For further details please refer to the Installation Manual, Chapter 9.

1.9 Accessories

ASK (All Season Kit):

For low ambient working conditions in cooling, an ASK can be installed inside the outdoor unit. This kit allows cooling operation down to outdoor temp of -10 °C by gradually controlling the outdoor fan speed motor.

RCW Wall Mounted Remote Control

The RCW remote control is mounted on the wall, and controls the unit either as an infrared remote control or as a wired controller. The wired controller can control up to 10 Indoor units with the same program settings and adjustments.
For further details please refer to Optional Accessories, Chapter 18.

1.10 Inbox Documentation

Each unit is supplied with its own installation and operation manuals.

1.11 Matching Table




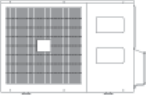
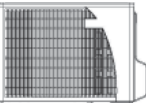
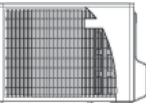
1.11.1 R410A




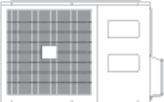
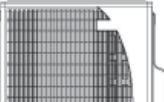
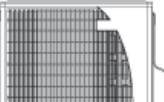
OUTDOOR UNITS			INDOOR UNITS									
MODEL	REFRIGER.		WNG7	WNG9	WNG12	WNG14	K9	K11	K15	PXD9	PXD12	PXD15
	ONG7 ST	R410A	√									
	ONG9 ST	R410A		√			√			√		
	ONG12 ST	R410A			√			√			√	
	ONG14 ST	R410A				√			√			√
	ONG7 RC	R410A	√									
	ONG9 RC	R410A		√			√			√*		
	ONG12 RC	R410A			√						√	
	ONG14 RC	R410A				√*						√



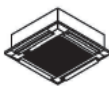
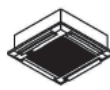



OUTDOOR UNITS			INDOOR UNITS										
MODEL	REF'		WNG18	WNG21	WNG24	WNG30	WNG36	K18	KN24	KN30	PXD18	PXD24	PXD30
	GC18 ST	R410A	√					√			√		
	GC21 ST	R410A		√									
	GC24 ST	R410A			√				√			√	
	OU8 30 ST	R410A				√				√			√
	OU10 36 ST	R410A					√						
	GC18 RC	R410A	√					√			√		
	GC21 RC	R410A		√									
	GC24 RC	R410A			√								
	OU8 30 RC	R410A				√							
	OU10 36 RC	R410A					√						

√* - The outdoor unit of this combination cannot be matched to other indoor units.

1.11.2 R407C

OUTDOOR UNITS			INDOOR UNITS									
												
	MODEL	REF'	WNG7	WNG9	WNG12	WNG14	K9	K11	K15	PXD9	PXD12	PXD15
	GCN7 ST	R407C	√									
	GCN7 RC	R407C	√									
	ONG9 ST	R407C		√			√			√		
	ONG12 ST	R407C			√			√			√	
	ONG14 ST	R407C				√			√			√
	ONG9 RC	R407C		√			√			√		
	ONG12 RC	R407C			√			√			√	
	ONG14 RC	R407C				√			√			√

OUTDOOR UNITS			INDOOR UNITS							
										
	MODEL	REF'	WMN/Z 7	WMN 14	LS 035	LS 040	WMF 7	WMF 9	WMF 12	
	GCN7 ST	R407C	√					√		
	GCN7 RC	R407C	√	√				√		
	ONG9 ST	R407C							√	
	ONG12 ST	R407C				√				√
	ONG14 ST	R407C		√			√			
	ONG9 RC	R407C								
	ONG12 RC	R407C				√				√
	ONG14 RC	R407C		√			√			



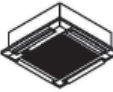

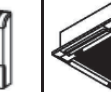
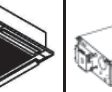
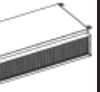
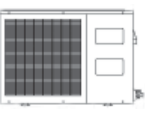
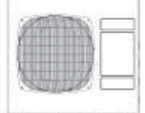
OUTDOOR UNITS			INDOOR UNITS				
							
	MODEL	REF'	WNG 30	PXD 30	K 30	KN 30	LS 090
	OU8 33 ST	R407C	√	√	√	√	√
	OU8 33 RC	R407C	√	√	√	√	√

1.11.3 R22

OUTDOOR UNITS			INDOOR UNITS								
MODEL	REF'	WNG7	WNG9	WNG12	WNG14	WMN/Z7	WMN/Z9	WMN/Z12	WMF7	WMF9	WMF12
	GCN7 ST	R22	√*				√			√	
	GCN7 RC	R22	√*				√			√	
	GCN9 ST	R22		√				√		√	
	GCN9 RC	R22		√*				√		√	
	GCN12 ST	R22			√				√		√
	GCN12 RC	R22			√*			√			√
	GC14 ST	R22				√*					
	GC14 RC	R22				√*					
	ONG9 ST	R22		√*							
	ONG9 RC	R22		√*							
	ONG12 ST	R22			√*						
	ONG12 RC	R22			√*						
	ONG14 ST	R22				√*					
	ONG14 RC	R22				√*					

OUTDOOR UNITS			INDOOR UNITS					
MODEL	REF'	LSO40	PXD9	PXD12	PXD15	K9	K11	K15
	GCN9 ST	R22		√			√	
	GCN9 RC	R22		√			√	
	GCN12 ST	R22			√			
	GCN12 RC	R22			√			
	GC14 ST	R22	√			√		√
	GC14 RC	R22	√			√		√

√* - the outdoor unit of this combination cannot be matched to other indoor units.

OUTDOOR UNITS			INDOOR UNITS										
													
	MODEL	REF'	WNG24	WNG30	WMN24	K24	K30	PXD24	PXD30	KN24	KN30	LS065	LS090
	GC24 ST	R22	√		√	√		√		√		√	
	GC24 RC	R22	√		√	√		√		√		√	
	GC30 ST	R22		√			√		√		√		
	GC30 RC	R22		√			√		√		√		
	OU8 33 ST	R22		√			√		√		√	√	√
	OU8 33 RC	R22		√			√		√		√	√	√

The above table lists outdoor units and WNG indoor units which can be matched together. In addition the listed outdoor units can be matched with other types of indoor units such as cassettes, floor/ceiling. For further information please refer to the relevant Service Manual.

2. PRODUCT DATA SHEET

2.1 WNG 7 / ONG 7 R410A

Model Indoor Unit		WNG-7		
Model Outdoor Unit		ONG-7		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	7610	7610	7760
	kW	2.23	2.23	2.28
Power input ⁽¹⁾	kW	0.68	0.68	0.665
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.28	3.28	3.42
Energy efficiency class		A	A	B
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	3.0	3.0	2.9
Starting current	A	15		
Circuit breaker rating	A	10		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	
	Air flow ⁽²⁾	H/M/L	m3/hr	
	External static pressure	Min-Max	Pa	
	Sound power level ⁽³⁾	H/M/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	
	Moisture removal		l/hr	
	Condensate drain tube I.D		mm	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		units	
	Stacking height		units	
OUTDOOR	Refrigerant control		Capillary tube (with 026 restrictor)	
	Compressor type,model		Rotary,LG GK086PAE	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	
	Air flow	H/L	m3/hr	
	Sound power level	H/L	56	57
	Sound pressure level ⁽⁴⁾	H/L	46	47
	Dimensions	WxHxD	mm	
	Weight		31	32
	Package dimensions	WxHxD	mm	
	Packaged weight		35	36
	Units per pallet		Units	
	Stacking height		units	
	Refrigerant type		R410A	
	Refrigerant chargeless distance	kg/m	0.77kg/7.5m	0.89kg/7.5m
	Additional charge per 1 meter	g/m	15	
	Connections between units	Liquid line	In.(mm)	1/4"(6.35)
Suction line		In.(mm)	3/8"(9.53)	
Max.tubing length		m.	Max.15	
Max.height difference		m.	Max.7	
Operation control type		Remote control		
Heating elements (Option)	kW	0.3		
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.2 WNG 9 / ONG 9 R410A

Model Indoor Unit		WNG-9		
Model Outdoor Unit		ONG-9		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	9280	9280	10240
	kW	2.72	2.72	3.0
Power input ⁽¹⁾	kW	0.825	0.825	0.850
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.30	3.30	3.53
Energy efficiency class		A	A	B
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	3.7	3.7	3.8
Starting current	A	18.7		
Circuit breaker rating	A	10		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	960/860/760
	Air flow ⁽²⁾	H/M/L	m3/hr	450/380/330
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	49/46/44
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	35/31/28
	Moisture removal		l/hr	0.9
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x190x285
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
	OUTDOOR	Refrigerant control		Capillary tube (with 029 restrictor)
Compressor type,model		Rotary,LG GK113PAG		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	780
Air flow		H/L	m3/hr	1780
Sound power level		H/L	dB(A)	58 60
Sound pressure level ⁽⁴⁾		H/L	dB(A)	48 49
Dimensions		WxHxD	mm	795x290x610
Weight			kg	34 35
Package dimensions		WxHxD	mm	945x395x655
Packaged weight			kg	38 39
Units per pallet			Units	9
Stacking height			units	3 levels
Refrigerant type				R410A
Refrigerant chargless distance			kg/m	0.96kg/7.5m 1kg/7.5m
Additional charge per 1 meter			g/m	10
Connections between units		Liquid line	In.(mm)	1/4"(6.35)
	Suction line	In.(mm)	3/8"(9.53)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements (Option)		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.3 WNG 12 / ONG 12 R410A

Model Indoor Unit		WNG-12		
Model Outdoor Unit		ONG-12		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	12390	12390	13650
	kW	3.63	3.63	4.0
Power input ⁽¹⁾	kW	1.115	1.115	1.14
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.26	3.26	3.51
Energy efficiency class		A	A	B
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	5.0	5.0	5.1
Starting current	A	25		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	
	Air flow ⁽²⁾	H/M/L	m3/hr	
	External static pressure	Min-Max	Pa	
	Sound power level ⁽³⁾	H/M/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	
	Moisture removal		l/hr	
	Condensate drain tube I.D		mm	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		units	
	Stacking height		units	
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type,model		Rotary,PA145X2C-4FT		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	
Air flow		H/L	m3/hr	
Sound power level		H/L	62	64
Sound pressure level(4)		H/L	52	53
Dimensions		WxHxD	mm	
Weight			35	36
Package dimensions		WxHxD	mm	
Packaged weight			39	40
Units per pallet		Units	9	
Stacking height		units	3 levels	
Refrigerant type			R410A	
Refrigerant chargless distance		kg/m	1.15kg/7.5m	1.15kg/7.5m
Additional charge per 1 meter	g/m	12		
Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
	Suction line	In.(mm)	3/8"(9.53)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type		Remote control		
Heating elements (Option)	kW	0.3		
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.4 WNG 14 / /ONG 14 R410A

Model Indoor Unit		WNG-14		
Model Outdoor Unit		ONG-14		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	13650	13650	15290
	kW	4.0	4.0	4.48
Power input ⁽¹⁾	kW	1.33	1.33	1.395
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.01	3.01	3.21
Energy efficiency class		B	B	C
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	6.1	6.1	6.5
Starting current	A	30		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	
	Air flow ⁽²⁾	H/M/L	m3/hr	
	External static pressure	Min-Max	Pa	
	Sound power level ⁽³⁾	H/M/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	
	Moisture removal		l/hr	
	Condensate drain tube I.D		mm	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		units	
	Stacking height		units	
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type,model		Rotary,RN165VHSMT		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	
Air flow		H/L	m3/hr	
Sound power level		H/L	63	64
Sound pressure level ⁽³⁾		H/L	53	54
Dimensions		WxHxD	mm	
Weight			41.5	42.2
Package dimensions		WxHxD	mm	
Packaged weight			45.5	46.5
Units per pallet		Units	9	
Stacking height		units	3 levels	
Refrigerant type			R410A	
Refrigerant chargeless distance		kg/m	1.34kg/7.5m	
Additional charge per 1 meter	g/m	20		
Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
	Suction line	In.(mm)	1/2"(12.7)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type		Remote control		
Heating elements (Option)		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.5 WNG 18 / GC 18 R410A

Model Indoor Unit		WNG-18		
Model Outdoor Unit		GC-18		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity (4)	Btu/hr	18250	18250	18420
	kW	5.35	5.35	5.40
Power input (4)	kW	1.66	1.66	1.56
EER (Cooling) or COP(Heating) (4)	W/W	3.22	3.22	3.46
Energy efficiency class		A	A	B
Power supply	V/Hz/Ph	220-240V/50Hz/Single		
Rated current	A	7.5	7.5	7.1
Starting current	A	43		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Cross flow*1	
	Fan speeds	H/M/L	RPM	1200/1100/1000
	Air flow (1)	H/M/L	m3/hr	930/840/750
	External static pressure	Min-Max	Pa	N/A
	Sound power level (2)	H/M/L	dB(A)	56-53-50
	Sound pressure level(3)	H/M/L	dB(A)	43-40-37
	Moisture removal		l/hr	1.8
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1060x295x210
	Weight		kg	14
	Package dimensions	WxHxD	mm	1115x350x260
	Packaged weight		kg	17
	Units per pallet		units	16
	Stacking height		units	8
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type,model		Rotary,TOSHIBA PA200X2CS-4KU1		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	815
Air flow		H/L	m3/hr	2480
Sound power level		H/L	dB(A)	68
Sound pressure level(3)		H/L	dB(A)	57
Dimensions		WxHxD	mm	846*302*690
Weight			kg	56
Package dimensions		WxHxD	mm	990*430*770
Packaged weight			kg	61
Units per pallet			Units	9
Stacking height			units	3
Refrigerant type		R410A		
Refrigerant chargless distance		kg/m	1.54kg/7.5m	
Additional charge		g/m	4m≤Length≤10m 1540g 10m≤Length≤18m 1690g 18m≤Length≤25m 1900g	
Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
	Suction line	In.(mm)	1/2"(12.7)	
	Max.tubing length	m.	25	
	Max.height difference	m.	15	
Operation control type		Remote control		
Heating elements		kW		
Others		All season kit Factory option		

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.6 WNG 21 / GC 21 R410A

Model Indoor Unit		WNG 21			
Model Outdoor Unit		GC 21			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	
Capacity ⁽¹⁾		Btu/hr	21150	21150	
		kW	6.2	6.2	
Power input ⁽¹⁾		kW	2.05	2.05	
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	3.02	3.02	
Energy efficiency class			B	B	
Power supply		V/Ph/Hz	220-240V/Single/50Hz		
Rated current		A	9.3	9.3	
Starting current		A	50		
Circuit breaker rating		A	20		
INDOOR	Fan type & quantity		Cross flow x 1		
	Fan speeds	H/M/L	RPM	1300/1200/1100	
	Air flow ⁽²⁾	H/M/L	m3/hr	910/820/740	
	External static pressure	Min-Max	Pa	0	
	Sound power level ⁽³⁾	H/M/L	dB(A)	60/57/55	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	47/44/42	
	Moisture removal		l/hr	2.3	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	1060x295x210	
	Weight		kg	15	
	Package dimensions	WxHxD	mm	1125x360x280	
	Packaged weight		kg	18	
	Units per pallet		units	16	
	Stacking height		units	8 levels	
OUTDOOR	Refrigerant control		Capillary tube		
	Compressor type, model		Rotary ,TOSHIBA PA240X2CS-4KU1		
	Fan type & quantity		Propeller(direct) x 1		
	Fan speeds	H/L	RPM	815	
	Air flow	H/L	m3/hr	2860	
	Sound power level	H/L	dB(A)	69	
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	59	
	Dimensions	WxHxD	mm	846X690x302	
	Weight		kg	56	
	Package dimensions	WxHxD	mm	990x720x430	
	Packaged weight		kg	61	
	Units per pallet		Units	9	
	Stacking height		units	3 levels	
	Refrigerant type		R410A		
Refrigerant chargless distance		kg/m	2/7.5m		
Additional charge per 1 meter		g/m	4m≤ L ≤10m:+0g 10m≤ L ≤15m:+330g 15m≤ L ≤20m:+460g		
Connections between units	Liquid line	In.(mm)	3/8"(9.53)		
	Suction line	In.(mm)	5/8"(15.88)		
	Max. tubing length	m.	Max.20		
	Max. height difference	m.	Max.15		
Operation control type		Remote control			
Heating Elements		kW	1.65/0.9		
Others					

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit

2.7 WNG 24 / OU7-24 R410A

Model Indoor Unit		WNG 24				
Model Outdoor Unit		OU7-24				
Installation method		WALL MOUNTED				
Characteristics		Units	Cooling only	Cooling	Heating	
Capacity (1)		Btu/hr	23100	23100	24150	
		kW	6.77	6.77	7.08	
Power input (1)		kW	2.24	2.24	2.35	
COP (1)		W/W	3.02	3.02	2.95	
Energy efficiency class			B	B	D	
Power supply		V/ Ph /Hz	230/50/1			
Rated current		A	10.5	11.0		
Starting current		A	63			
Circuit breaker rating		A	20			
INDOOR	Fan type & quantity		CROSS FLOW *1			
	Fan speeds	H/ M/ L	RPM	1300	1200 1100	
	Air flow (2)	H/ M/ L	m³/hr	910	820 740	
	External static pressure	Min-Max	Pa	N/A		
	Sound power level (3)	H/ M/ L	dB(A)	60	57 55	
	Sound pressure level (4)	H/ M/ L	dB(A)	47	44 42	
	Moisture removal		L/hr	2.3		
	Condensate drain tube I.D		mm	16		
	Dimensions	W/ H / D	mm	1060	295 210	
	Weight		kg	15		
	Package dimensions	W/ H / D	mm	1125	360 280	
	Packaged weight		kg	18		
	Units per pallet		Units	16		
	Stacking height		Units	8		
OUTDOOR	Refrigerant control		CAPILLARY TUBE			
	Compressor type, model		ROTARY			
	Fan type & quantity		AXIAL*1			
	Fan speeds	H / L	RPM	850	720	
	Air flow	H / L	m³/hr	3100	2600	
	Sound power level	H / L	dB(A)	67	62	
	Sound pressure level (4)	H / L	dB(A)	58	54	
	Dimensions	W/ H / D	mm	900	680 340	
	Weight		kg	74		
	Package dimensions	W/ H / D	mm	985	730 406	
	Packaged weight		kg	77		
	Units per pallet		Units	6		
	Stacking height		Units	2		
	Refrigerant type		R410A			
	Refrigerant chargeless distance		kg/m	2.035/12.5		
	Additional charge		g/m	12.5m<Add 350g<15m 15m<Add 1040g<20m		
	Connections between units	Liquid line	In.	3/8		
Suction line		In.	5/8			
Max. tubing length		m.	20			
Max. height difference		m.	15			
Operation control type		LCD REMOTE CONTROL				
Heating elements		kW				
Others		All season kit Factory option				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.
 (2) Airflow in ducted units; at nominal external static pressure.
 (3) Sound power in ducted units is measured at air discharge.
 (4) Sound pressure level measured at 1 meter distance from unit

2.8 WNG 24 / OU7-24Z R410A

Model Indoor Unit		WNG 24				
Model Outdoor Unit		OU7-24Z				
Installation method		WALL MOUNTED				
Characteristics		Units	Cooling only	Cooling	Heating	
Capacity (1)		Btu/hr	23100	23100	24150	
		kW	6.77	6.77	7.08	
Power input (1)		kW	2.24	2.24	2.35	
COP (1)		W/W	3.02	3.02	2.95	
Energy efficiency class			B	B	D	
Power supply		V/ Ph /Hz	230/50/1			
Rated current		A	10.5		11.0	
Starting current		A	63			
Circuit breaker rating		A	20			
INDOOR	Fan type & quantity		CROSS FLOW *1			
	Fan speeds	H/ M/ L	RPM	1300	1200	1100
	Air flow (2)	H/ M/ L	m³/hr	910	820	740
	External static pressure	Min-Max	Pa	N/A		
	Sound power level (3)	H/ M/ L	dB(A)	60	57	55
	Sound pressure level (4)	H/ M/ L	dB(A)	47	44	42
	Moisture removal		L/hr	2.3		
	Condensate drain tube I.D		mm	16		
	Dimensions	W/ H / D	mm	1060	295	210
	Weight		kg	15		
	Package dimensions	W/ H / D	mm	1125	360	280
	Packaged weight		kg	18		
	Units per pallet		Units	16		
	Stacking height		Units	8		
OUTDOOR	Refrigerant control		CAPILLARY TUBE			
	Compressor type, model		ROTARY			
	Fan type & quantity		AXIAL *1			
	Fan speeds	H / L	RPM	850	720	
	Air flow	H / L	m³/hr	3100	2600	
	Sound power level	H / L	dB(A)	67	62	
	Sound pressure level (4)	H / L	dB(A)	58	54	
	Dimensions	W/ H / D	mm	900	680	340
	Weight		kg	64		
	Package dimensions	W/ H / D	mm	985	730	406
	Packaged weight		kg	67		
	Units per pallet		Units	6		
	Stacking height		Units	2		
	Refrigerant type			R410A		
	Refrigerant chargeless distance		kg/m	1.7 / 7.5		
	Additional charge		g/m	7.5m<Add 30g / <15m		
	Connections between units	Liquid line		In.		
Suction line			In.			
Max. tubing length			m.			
Max. height difference			m.			
Operation control type			LCD REMOTE CONTROL			
Heating elements			kW			
Others						

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit

2.9 WNG 24 / OU7-24T R410A

Model Indoor Unit		WNG 24					
Model Outdoor Unit		OU7-24T					
Installation method		WALL MOUNTED					
Characteristics		Units	Cooling only	Cooling	Heating		
Capacity (1)		Btu/hr	23220	23220	25130		
		kW	6.81	6.81	7.37		
Power input (1)		kW	2.26	2.26	2.4		
COP (1)		W/W	3.01	3.01	3.07		
Energy efficiency class			B	B	D		
Power supply		V/ Ph /Hz	400/50/3N				
Rated current		A	4.1*3		4.4*3		
Starting current		A	55				
Circuit breaker rating		A	10*3				
INDOOR	Fan type & quantity		CROSS FLOW *1				
	Fan speeds		H/ M/ L	RPM	1300	1200	1100
	Air flow (2)		H/ M/ L	m³/hr	990	930	840
	External static pressure		Min-Max	Pa	N/A		
	Sound power level (3)		H/ M/ L	dB(A)	58	55	53
	Sound pressure level (4)		H/ M/ L	dB(A)	45	42	40
	Moisture removal			L/hr	2.3		
	Condensate drain tube I.D			mm	16		
	Dimensions		W/ H / D	mm	1060	295	210
	Weight			kg	15		
	Package dimensions		W/ H / D	mm	1115	350	260
	Packaged weight			kg	18		
	Units per pallet			Units	16		
	Stacking height			Units	8		
OUTDOOR	Refrigerant control		CAPILLARY TUBE				
	Compressor type, model		ROTARY				
	Fan type & quantity		AXIAL*1				
	Fan speeds		H / L	RPM	850	720	
	Air flow		H / L	m³/hr	3100	2600	
	Sound power level		H / L	dB(A)	67	62	
	Sound pressure level (4)		H / L	dB(A)	58	54	
	Dimensions		W/ H / D	mm	900	680	340
	Weight			kg	74		
	Package dimensions		W/ H / D	mm	985	730	406
	Packaged weight			kg	74		
	Units per pallet			Units	6		
	Stacking height			Units	2		
	Refrigerant type				R410A		
	Refrigerant chargeless distance		kg/m		2.035/12.5		
	Additional charge		g/m		12.5m<Add 350g<15m 12.5m<Add 1040g<20m		
	Connections between units	Liquid line		In.	3/8		
Suction line		In.	5/8				
Max. tubing length		m.	20				
Max. height difference		m.	15				
Operation control type			LCD REMOTE CONTROL				
Heating elements		kW					
Others			All season kit Factory option				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.
 (2) Airflow in ducted units; at nominal external static pressure.
 (3) Sound power in ducted units is measured at air discharge.
 (4) Sound pressure level measured at 1 meter distance from unit

2.10 WNG 25 / GC 24 R410A

Model Indoor Unit		WNG-25			
Model Outdoor Unit		GC-24			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾		Btu/hr	22960	22960	24570
		kW	6.73	6.73	7.2
Power input ⁽¹⁾		kW	2.34	2.34	2.33
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.88	2.88	3.09
Energy efficiency class			C	C	D
Power supply		V/Ph/Hz	220-240V/Single/50Hz		
Rated current		A	10.3	10.3	10.2
Starting current		A	63		
Circuit breaker rating		A	20		
INDOOR	Fan type & quantity			Crossflow x 1	
	Fan speeds	H/M/L	RPM	1050/930/800	
	Air flow ⁽²⁾	H/M/L	m ³ /hr	1000/850/720	
	External static pressure	Min-Max	Pa	0	
	Sound power level ⁽³⁾	H/M/L	dB(A)	58/54/51	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	45/42/38	
	Moisture removal		l/hr	2.6	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	1200X340X236	
	Weight		kg	18.5	
	Package dimensions	WxHxD	mm	1305X430X325	
	Packaged weight		kg	25.5	
	Units per pallet		units	12	
	Stacking height		units	6 levels	
	OUTDOOR	Refrigerant control			Capillary tube restrictor for heating)
Compressor type,model			Rotary,NN27VBAMT		
Fan type & quantity			Propeller(direct) x 1		
Fan speeds		H/L	RPM	815	
Air flow		H/L	m ³ /hr	2860	
Sound power level		H/L	dB(A)	67	
Sound pressure level ⁽⁴⁾		H/L	dB(A)	58	
Dimensions		WxHxD	mm	846X302X690	
Weight			kg	56	
Package dimensions		WxHxD	mm	990X430X770	
Packaged weight			kg	61	63
Units per pallet			Units	9	
Stacking height			units	3 levels	
Refrigerant type				R410A	
Refrigerant chargless distance			kg/m	2.18kg/7.5m	
Additional charge			g/m	4m≤Lin<10m:2180g 10m≤Lin<18m:2330g 18m≤Lin<25m:2550g	
Connections between units		Liquid line	ln.(mm)	3/8"(9.53)	
	Suction line	ln.(mm)	5/8"(15.88)		
	Max.tubing length	m.	Max.25		
	Max.height difference	m.	Max.15		
Operation control type			Remote control		
Heating elements		kW			
Others					

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.11 WNG 30 / OU8-30 R410A

Model Indoor Unit		WNG- 30			
Model Outdoor Unit		OU8-30 R410A			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	
Capacity ⁽¹⁾		Btu/hr	29000	31800	
		kW	8.5	9.08	
Power input ⁽¹⁾		kW	2.92	2.98	
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.91	3.05	
Energy efficiency class			C	D	
Power supply		V/Ph/Hz	220-240V/Single/50Hz		
Rated current		A	12.2	12.1	
Starting current		A	80		
Circuit breaker rating		A	25		
INDOOR	Fan type & quantity		Cross flow x 1		
	Fan speeds	H/M/L	RPM	1380/11150/1000	
	Air flow ⁽²⁾	H/M/L	m3/hr	1360/1110/1030	
	External static pressure	Min-Max	Pa	N/A	
	Sound power level ⁽³⁾	H/M/L	dB(A)	66/61/57	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	52/48/44	
	Moisture removal		l/hr	3.5	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	1200X340X236	
	Weight		kg	17.0	
	Package dimensions	WxHxD	mm	1300/430/315	
	Packaged weight		kg	24.0	
	Units per pallet		units	12	
	Stacking height		units	6 levels	
OUTDOOR	Refrigerant control		Capillary		
	Compressor type, model		Rotary		
	Fan type & quantity		Axial & 1		
	Fan speeds	H/L	RPM	850	
	Air flow	H/L	m3/hr	3150	
	Sound power level	H/L	dB(A)	69	
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	59	
	Dimensions	WxHxD	mm	900X860X340	
	Weight		kg	78	
	Package dimensions	WxHxD	mm	985X907X435	
	Packaged weight		kg	82	
	Units per pallet		Units	6	
	Stacking height		units	2 levels	
	Refrigerant type		R410A		
	Refrigerant charge less distance		kg/m	2.42 / 15	
	Additional charge		gr/m	30	
	Connections between units	Liquid line	In.(mm)	3/8"	
Suction line		In.(mm)	5/8"		
Max.tubing length		m.	30		
Max.height difference		m.	15		
Operation control type		LCD Remote control			
Heating elements		kW			
Others		Crankcase heater (50W),			

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.
 (2) Airflow in ducted units; at nominal external static pressure.
 (3) Sound power in ducted units is measured at air discharge.
 (4) Sound pressure level measured at 1 meter distance from unit.

2.12 WNG 30 / OU8-30T R410A

Model Indoor Unit		WNG- 30			
Model Outdoor Unit		OU8-30T R410A			
Installation Method of Pipe		WALL MOUNTED			
Characteristics		Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾		Btu/hr	29000	29000	31000
		kW	8.5	8.5	9.08
Power input ⁽¹⁾		kW	2.83	2.83	2.98
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	3.00	3.00	3.05
Energy efficiency class			C	C	D
Power supply		V/Ph/Hz	400V/3PH/50Hz		
Rated current		A	3X5.6	3X5.6	3X5.8
Starting current		A	35		
Circuit breaker rating		A	3X16		
INDOOR	Fan type & quantity		Cross flow & 1		
	Fan speeds		H/M/L	RPM	1380/1150/1000
	Air flow ⁽²⁾		H/M/L	m3/hr	1360/1110/1030
	External static pressure		Min-Max	Pa	N/A
	Sound power level ⁽³⁾		H/M/L	dB(A)	66/61/57
	Sound pressure level ⁽⁴⁾		H/M/L	dB(A)	52/48/44
	Moisture removal			l/hr	3.5
	Condensate drain tube I.D			mm	16
	Dimensions		WxHxD	mm	1200X340X236
	Weight			kg	17.0
	Package dimensions		WxHxD	mm	1300X430X315
	Packaged weight			kg	24
	Units per pallet			units	12
	Stacking height			units	6 levels
OUTDOOR	Refrigerant control		Capillary		
	Compressor type, model		Rotary		
	Fan type & quantity		Axial & 1		
	Fan speeds		H/L	RPM	850
	Air flow		H/L	m3/hr	3150
	Sound power level		H/L	dB(A)	69.0
	Sound pressure level ⁽⁴⁾		H/L	dB(A)	59.0
	Dimensions		WxHxD	mm	900X860X340
	Weight			kg	78
	Package dimensions		WxHxD	mm	985X907X435
	Packaged weight			kg	82
	Units per pallet			Units	6
	Stacking height			units	2 levels
	Refrigerant type		R410A		
	Refrigerant charge less distance		kg/m	2.13 / 7.5	
	Additional charge		gr/m	30	
	Connections between units		Liquid line	In.(mm)	3/8"
Suction line			In.(mm)	5/8"	
Max.tubing length			m.	30	
Max.height difference			m.	15	
Operation control type		LCD Remote control			
Heating elements		kW			
Others		Crankcase heater (50W), 3 Phase Protector			

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.13 WMG 30 / OU10-36 R410A

Model Indoor Unit		WNG 36		
Model Outdoor Unit		OU10-36		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	34600	34600	38000
	kW	10.15	10.15	11.14
Power input ⁽¹⁾	kW	3.22	3.22	3.60
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.15	3.15	3.10
Energy efficiency class		B	B	D
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	15.3	15.3	16.8
Starting current	A	92		
Circuit breaker rating	A	25		
INDOOR	Fan type & quantity		Cross flow x 1	
	Fan speeds	H/M/L	RPM	1380/1270/1150
	Air flow ⁽²⁾	H/M/L	m3/hr	1360/1240/1110
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	66/63/61
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	52/50/48
	Moisture removal		l/hr	4
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1200x340x236
	Weight		kg	17
	Package dimensions	WxHxD	mm	1300x430x315
	Packaged weight		kg	24
	Units per pallet		units	12 units per pallet
	Stacking height		units	6 levels
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type, model		Rotary, Mitsubishi Siam NN40VAAMT		
Fan type & quantity		Propeller(direct) x 2		
Fan speeds		H/L	RPM	1150
Air flow		H/L	m3/hr	4150
Sound power level		H/L	dB(A)	70.4
Sound pressure level ⁽⁴⁾		H/L	dB(A)	61.1
Dimensions		WxHxD	mm	900x970x340
Weight			kg	87
Package dimensions		WxHxD	mm	985x1020x435
Packaged weight			kg	91
Units per pallet			Units	6
Stacking height			units	2 levels
Refrigerant type				R410A
Refrigerant chargless distance			kg/m	2.38kg/15m
Additional charge per 1 meter			g/m	30
Connections between units		Liquid line	In.(mm)	3/8"(9.53)
	Suction line	In.(mm)	3/4"(19.06)	
	Max. tubing length	m.	Max.50	
	Max. height difference	m.	Max.25	
Operation control type			Remote control	
Heating Elements		kW		
Others			Crankcase Heater (50w)	

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit

2.14 WMG 36 / OU10-36T R410A

Model Indoor Unit		WNG 36			
Model Outdoor Unit		OU10-36T			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾		Btu/hr	35480	35480	38200
		kW	10.40	10.40	11.20
Power input ⁽¹⁾		kW	3.06	3.06	3.40
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	3.40	3.40	3.30
Energy efficiency class			A	A	C
Power supply		V/Ph/Hz	400V/3/50Hz		
Rated current		A	3X6.3	3X6.3	3X7.2
Starting current		A	43		
Circuit breaker rating		A	3X16		
INDOOR	Fan type & quantity		Cross flow x 1		
	Fan speeds	H/M/L	RPM	1380/1270/1150	
	Air flow ⁽²⁾	H/M/L	m3/hr	1360/1240/1110	
	External static pressure	Min-Max	Pa	0	
	Sound power level ⁽³⁾	H/M/L	dB(A)	66/63/61	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	52/50/48	
	Moisture removal		l/hr	4	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	1200x340x236	
	Weight		kg	17	
	Package dimensions	WxHxD	mm	1300x430x315	
	Packaged weight		kg	24	
	Units per pallet		units	12 units per pallet	
	Stacking height		units	6 levels	
	OUTDOOR	Refrigerant control		Capillary tube	
Compressor type, model		Rotary, Mitsubishi Siam NN40VCAMT			
Fan type & quantity		Propeller(direct) x 2			
Fan speeds		H/L	RPM	1150	
Air flow		H/L	m3/hr	4150	
Sound power level		H/L	dB(A)	70.4	
Sound pressure level ⁽⁴⁾		H/L	dB(A)	61.1	
Dimensions		WxHxD	mm	900x970x340	
Weight			kg	87	
Package dimensions		WxHxD	mm	985x1020x435	
Packaged weight			kg	91	
Units per pallet			Units	6	
Stacking height			units	2 levels	
Refrigerant type				R410A	
Refrigerant chargeless distance			kg/m	2.38kg/15m	
Additional charge per 1 meter		g/m	30		
Connections between units	Liquid line	In.(mm)	3/8"(9.53)		
	Suction line	In.(mm)	3/4"(19.06)		
	Max. tubing length	m.	Max.50		
	Max. height difference	m.	Max.25		
Operation control type			Remote control		
Heating Elements		kW			
Others			Crankcase Heater (50w)		

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit

2.15 WNG 7 / GCN 7 R407C

Model Indoor Unit		WNG-7		
Model Outdoor Unit		GCN-7		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	7710	7710	7610
	kW	2.26	2.26	2.23
Power input ⁽¹⁾	kW	0.8	0.8	0.690
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.83	2.83	3.23
Energy efficiency class		C	C	C
Power supply	V/Ph/Hz	230V/Single/50Hz		
Rated current	A	3.5	3.5	3.0
Starting current	A	22		
Circuit breaker rating	A	10		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	860/760/660
	Air flow ⁽²⁾	H/M/L	m3/hr	380/320/280
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	45/41/39
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	30/27/25
	Moisture removal		l/hr	0.8
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary,TOSHIBA PG135X1C-4DT3	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	670
	Air flow	H/L	m3/hr	1310
	Sound power level	H/L	dB(A)	62
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	51
	Dimensions	WxHxD	mm	830*545*245
	Weight		kg	30 31
	Package dimensions	WxHxD	mm	880*610*310
	Packaged weight		kg	31.5 32.5
	Units per pallet		Units	12
	Stacking height		units	3 levels
	Refrigerant type			R407C
Refrigerant chargeless distance		kg/m	0.72kg/4m	
Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m	
Connections between units	Liquid line	In.(mm)	Φ 1/4"(6.35)	
	Suction line	In.(mm)	Φ 3/8"(9.53)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.16 WNG 9 / ONG3-9 R407C

Model Indoor Unit		WNG-9		
Model Outdoor Unit		ONG3-9		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	9280	9080	10200
	kW	2.72	2.66	2.99
Power input ⁽¹⁾	kW	0.9	0.88	0.920
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.02	3.02	3.25
Energy efficiency class		B	B	C
Power supply	V/Ph/Hz	230V50HZ/Single		
Rated current	A	4	4.0	4.1
Starting current	A	20		
Circuit breaker rating	A	10		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	960/860/760
	Air flow ⁽²⁾	H/M/L	m3/hr	450/380/330
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	49/46/44
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	35/31/28
	Moisture removal		l/hr	1
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary TOSHIBA PG170X1C-4FS3	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	780
	Air flow	H/L	m3/hr	1780
	Sound power level	H/L	dB(A)	60
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	50
	Dimensions	WxHxD	mm	795x610x290
	Weight		kg	35 36
	Package dimensions	WxHxD	mm	945x655x395
	Packaged weight		kg	38 39
	Units per pallet		Units	9
	Stacking height		units	3 levels
	Refrigerant type			R407C
	Refrigerant chargeless distance		kg/m	0.88kg/4m
	Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m
Connections between units	Liquid line	In.(mm)	Φ 1/4"(6.35)	
	Suction line	In.(mm)	Φ 3/8"(9.53)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.17 WNG 12 / ONG3-12 R407C

Model Indoor Unit		WNG-12		
Model Outdoor Unit		ONG3-12		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	12390	12390	13000
	kW	3.63	3.63	3.81
Power input ⁽¹⁾	kW	1.2	1.2	1.180
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	3.03	3.03	3.23
Energy efficiency class		B	B	C
Power supply	V/Ph/Hz	230V/Single/50Hz		
Rated current	A	5.3	5.3	5.3
Starting current	A	30		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	1230/1080/930
	Air flow ⁽²⁾	H/M/L	m3/hr	630/550/450
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	56/53/50
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	44/39/34
	Moisture removal		l/hr	1.3
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary Toshiba PG215X2C-4FS	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	810
	Air flow	H/L	m3/hr	1850
	Sound power level	H/L	dB(A)	62
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	52
	Dimensions	WxHxD	mm	795x610x290
	Weight		kg	39 41
	Package dimensions	WxHxD	mm	945x655x395
	Packaged weight		kg	42 45
	Units per pallet		Units	9
	Stacking height		units	3 levels
	Refrigerant type			R407C
Refrigerant chargeless distance		kg/m	0.97kg/4m	
Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m	
Connections between units	Liquid line	In.(mm)	Φ 1/4"(6.35)	
	Suction line	In.(mm)	Φ 1/2"(12.7)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.18 WNG 14 / ONG3-14 R407C

Model Indoor Unit		WNG-14			
Model Outdoor Unit		ONG3-14			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾		Btu/hr	14190	14190	14880
		kW	4.16	4.16	4.36
Power input ⁽¹⁾		kW	1.46	1.46	1.540
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.85	2.85	2.83
Energy efficiency class			C	C	D
Power supply		V/Ph/Hz	230V/Single/50Hz		
Rated current		A	6.5	6.5	6.9
Starting current		A	33		
Circuit breaker rating		A	15		
INDOOR	Fan type & quantity		Crossflow x 1		
	Fan speeds	H/M/L	RPM	1280/1080/930	
	Air flow ⁽²⁾	H/M/L	m3/hr	660/550/475	
	External static pressure	Min-Max	Pa	0	
	Sound power level ⁽³⁾	H/M/L	dB(A)	59/53/48	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	46/41/35	
	Moisture removal		l/hr	1.7	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	810x285x190	
	Weight		kg	11	
	Package dimensions	WxHxD	mm	885x285x360	
	Packaged weight		kg	14	
	Units per pallet		units	32	
	Stacking height		units	8 levels	
	OUTDOOR	Refrigerant control		Capillary tube	
Compressor type,model		Rotary TOSHIBA PG260X2C-4FT3			
Fan type & quantity		Propeller(direct) x 1			
Fan speeds		H/L	RPM	920	
Air flow		H/L	m3/hr	2160	
Sound power level		H/L	dB(A)	64	
Sound pressure level ⁽⁴⁾		H/L	dB(A)	54	
Dimensions		WxHxD	mm	795x610x290	
Weight			kg	41	42
Package dimensions		WxHxD	mm	945x655x395	
Packaged weight			kg	44	45
Units per pallet			Units	9	
Stacking height			units	3 levels	
Refrigerant type				R407C	
Refrigerant chargless distance			kg/m	0.99kg/4m	1.09kg/4m
Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+15g/m		
Connections between units	Liquid line	In.(mm)	Φ 1/4"(6.35)		
	Suction line	In.(mm)	Φ 1/2"(12.7)		
	Max.tubing length	m.	Max.15		
	Max.height difference	m.	Max.7		
Operation control type			Remote control		
Heating elements		kW	0.3		
Others					

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.19 WNG 30 / OU8-33 R407C

Model Indoor Unit		WNG 30		
Model Outdoor Unit		OU8-33		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	30000	30000	32910
	kW	8.8	8.8	9.64
Power input ⁽¹⁾	kW	3.38	3.38	3.88
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.6	2.6	2.5
Energy efficiency class		D	D	F
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	14.4	14.4	16.1
Starting current	A	76		
Circuit breaker rating	A	25		
INDOOR	Fan type & quantity		Cross flow x 1	
	Fan speeds	H/M/L	RPM	1300/1200/1000
	Air flow ⁽²⁾	H/M/L	m3/hr	1250/1040/830
	External static pressure	Min-Max	Pa	N/A
	Sound power level ⁽³⁾	H/M/L	dB(A)	64/59/53
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	54/52/41
	Moisture removal		l/hr	3.2
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1200X340X236
	Weight		kg	18.5
	Package dimensions	WxHxD	mm	1305X430X325
	Packaged weight		kg	25.5
	Units per pallet		units	12
	Stacking height		units	6 levels
	OUTDOOR	Refrigerant control		Capillary
Compressor type, model		SCROLL HQ040PA		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	850
Air flow		H/L	m3/hr	3110
Sound power level		H/L	dB(A)	69
Sound pressure level ⁽⁴⁾		H/L	dB(A)	62
Dimensions		WxHxD	mm	900X860X340
Weight			kg	78
Package dimensions		WxHxD	mm	903X907X435
Packaged weight			kg	82
Units per pallet			Units	6
Stacking height			units	3 levels
Refrigerant type				R407C
Refrigerant charge			Kg/m	2.35/ 7.5m
Additional charge		gr/m	25	
Connections between units	Liquid line	In.(mm)	3/8"(9.53)	
	Suction line	In.(mm)	3/4"(19.05)	
	Max.tubing length	m.	30	
	Max.height difference	m.	15	
Operation control type		Remote control		
Heating elements		kW		

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.20 WNG 30 / OU8-30T R407C

Model Indoor Unit		WNG 30		
Model Outdoor Unit		OU8-30T		
Installation Method of Pipe		Flared		
Characteristics		Units	Cooling Only	Cooling
Capacity ⁽¹⁾		Btu/hr	29810	31270
		kW	8.73	9.16
Power input ⁽¹⁾		kW	3.4	3.33
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.56	2.75
Energy efficiency class			E	E
Power supply		V/Ph/Hz	400V/3PH/50Hz	
Rated current		A	6.5	6.7
Starting current		A	35	
Circuit breaker rating		A	16	
INDOOR	Fan type & quantity		Cross flow x 1	
	Fan speeds	H/M/L	RPM	1300/1200/1000
	Air flow ⁽²⁾	H/M/L	m3/hr	1250/1040/830
	External static pressure	Min-Max	Pa	N/A
	Sound power level ⁽³⁾	H/M/L	dB(A)	64/59/53
	Sound pressure level ⁽³⁾	H/M/L	dB(A)	54/52/41
	Moist4re removal		l/hr	3.2
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1200X340X236
	Weight		kg	18.5
	Package dimensions	WxHxD	mm	1305X430X325
	Packaged weight		kg	25.5
	Units per pallet		units	12
	Stacking height		units	6 levels
OUTDOOR	Refrigerant control		Capillary + Nozzle Ass'y	
	Compressor type, model		SCROLL HQ040YA	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	850
	Air flow	H/L	m3/hr	3110
	Sound power level	H/L	dB(A)	69
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	62
	Dimensions	WxHxD	mm	900X860X340
	Weight		kg	78
	Package dimensions	WxHxD	mm	903X907X435
	Packaged weight		kg	82
	Units per pallet		Units	6
	Stacking height		units	3 levels
	Refrigerant type		R407C	
	Refrigerant charge		kg/m	2.36/7.5m
	Additional charge		gr/m	25
	Connections between units	Liquid line	In.(mm)	3/8"(9.53)
Suction line		In.(mm)	3/4"(19.05)	
Max.tubing length		m.	30	
Max.height difference		m.	15	
Operation control type		Remote control		

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.21 WNG 7 / GCN 7 R22

Model Indoor Unit		WNG-7		
Model Outdoor Unit		GCN-7		
Installation Method of Pipe		Flared		
Characteristics	Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	7710	7710	7610
	kW	2.27	2.27	2.32
Power input ⁽¹⁾	kW	0.8	0.8	0.680
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.84	2.84	3.41
Energy efficiency class		C	C	B
Power supply	V/Ph/Hz	230V/50Hz/Single		
Rated current	A	3.6	3.6	3.1
Starting current	A	16		
Circuit breaker rating	A	10		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	860/760/660
	Air flow ⁽²⁾	H/M/L	m3/hr	380/320/280
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	45/41/39
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	30/27/25
	Moisture removal		l/hr	0.8
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type,model		Rotary,SD134CV-H6AUA		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	670
Air flow		H/L	m3/hr	1400
Sound power level		H/L	dB(A)	59
Sound pressure level ⁽⁴⁾		H/L	dB(A)	49
Dimensions		WxHxD	mm	830*245*545
Weight			kg	30 31
Package dimensions		WxHxD	mm	880*310*610
Packaged weight			kg	31.5 32.5
Units per pallet			Units	12
Stacking height			units	3 levels
Refrigerant type				R22
Refrigerant chargeless distance			kg/m	0.7kg/4m
Additional charge per 1 meter			g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m
Connections between units		Liquid line	In.(mm)	1/4"(6.35)
	Suction line	In.(mm)	3/8"(9.53)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.22 WNG 9 / GCN 9 R22

Model Indoor Unit		WNG-9			
Model Outdoor Unit		GCN-9			
Installation Method of Pipe		Flared			
Characteristics		Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾		Btu/hr	9550	9080	10200
		kW	2.8	2.80	2.83
Power input ⁽¹⁾		kW	0.99	0.99	0.920
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.83	2.83	3.08
Energy efficiency class			C	C	D
Power supply		V/Ph/Hz	230V50HZ/Single		
Rated current		A	4.5	4.5	4.2
Starting current		A	26		
Circuit breaker rating		A	10		
INDOOR	Fan type & quantity		Crossflow x 1		
	Fan speeds	H/M/L	RPM		
	Air flow ⁽²⁾	H/M/L	m3/hr		
	External static pressure	Min-Max	Pa		
	Sound power level ⁽³⁾	H/M/L	dB(A)		
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)		
	Moisture removal		l/hr		
	Condensate drain tube I.D		mm		
	Dimensions	WxHxD	mm		
	Weight		kg		
	Package dimensions	WxHxD	mm		
	Packaged weight		kg		
	Units per pallet		units		
	Stacking height		units		
OUTDOOR	Refrigerant control		Capillary tube		
	Compressor type,model		Rotary PH170X1C-4FS2		
	Fan type & quantity		Propeller(direct) x 1		
	Fan speeds	H/L	RPM		
	Air flow	H/L	m3/hr		
	Sound power level	H/L	dB(A)		
	Sound pressure level ⁽⁴⁾	H/L	dB(A)		
	Dimensions	WxHxD	mm		
	Weight		kg	31	32
	Package dimensions	WxHxD	mm	880*310*610	
	Packaged weight		kg	35	36
	Units per pallet		Units	12	
	Stacking height		units	3 levels	
	Refrigerant type			R22	
	Refrigerant chargeless distance		kg/m	0.8kg/4m	
	Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m	
	Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
Suction line		In.(mm)	3/8"(9.53)		
Max.tubing length		m.	Max.15		
Max.height difference		m.	Max.7		
Operation control type			Remote control		
Heating elements		kW	0.3		
Others					

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.23 WNG 9 / ONG3-9 R22

Model Indoor Unit		WNG 9		
Model Outdoor Unit		ONG3-9		
Installation Method of Pipe		Flared		
Characteristics		Units	cooling only	Cooling
Capacity ⁽¹⁾		Btu/hr	9690	9080
		kW	2.84	2.84
Power input ⁽¹⁾		kW	0.93	0.93
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	3.05	3.05
Energy efficiency class			B	C
Power supply		V/Ph/Hz	230V50HZ/Single	
Rated current		A	4.2	4.2
Starting current		A	25	
Circuit breaker rating		A	10	
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	960/860/760
	Air flow ⁽²⁾	H/M/L	m3/hr	450/380/330
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	49/46/44
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	35/31/28
	Moisture removal		l/hr	1
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	13.5
	Units per pallet		units	32
	Stacking height		units	8 levels
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary PH170X1C-4FS2	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	730
	Air flow	H/L	m3/hr	1770
	Sound power level	H/L	dB(A)	58
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	48
	Dimensions	WxHxD	mm	795x290x610
	Weight		kg	34
	Package dimensions	WxHxD	mm	945x395x655
	Packaged weight		kg	37
	Units per pallet		Units	9
	Stacking height		units	3 levels
	Refrigerant type			R407C
	Refrigerant chargless distance		kg/m	0.79kg/4m
	Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m
	Connections between units	Liquid line	In.(mm)	1/4"(6.35)
Suction line		In.(mm)	3/8"(9.53)	
Max.tubing length		m.	Max.15	
Max.height difference		m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.24 WNG 12 / GCN 12 R22

Model Indoor Unit		WNG-12		
Model Outdoor Unit		GCN-12		
Installation Method of Pipe		Flared		
Characteristics	Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	12280	12280	13000
	kW	3.6	3.6	3.72
Power input ⁽¹⁾	kW	1.25	1.25	1.27
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.88	2.88	2.93
Energy efficiency class		C	C	D
Power supply	V/Ph/Hz	230V/50Hz/Single		
Rated current	A	5.4	5.4	5.5
Starting current	A	33		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	1080/960/840
	Air flow ⁽²⁾	H/M/L	m3/hr	525/450/370
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	51/48/44
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	39/36/32
	Moisture removal		l/hr	1.8
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	14
	Units per pallet		units	32
	Stacking height		units	8 levels
	OUTDOOR	Refrigerant control		Capillary tube
Compressor type,model		Rotary Toshiba PH225X2C-4FS		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	830
Air flow		H/L	m3/hr	1550
Sound power level		H/L	dB(A)	62
Sound pressure level ⁽⁴⁾		H/L	dB(A)	52
Dimensions		WxHxD	mm	830*245*545
Weight			kg	36 37
Package dimensions		WxHxD	mm	880*310*610
Packaged weight			kg	39 40
Units per pallet			Units	12
Stacking height			units	3 levels
Refrigerant type				R22
Refrigerant chargeless distance			kg/m	1.14kg/4m
Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m	
Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
	Suction line	In.(mm)	1/2"(12.7)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.25 WNG 12 / ONG3-12 R22

Model Indoor Unit		WNG-12		
Model Outdoor Unit		ONG3-12		
Installation Method of Pipe		Flared		
Characteristics	Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	12280	12280	13000
	kW	3.6	3.60	3.72
Power input ⁽¹⁾	kW	1.23	1.23	1.230
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.93	2.93	3.02
Energy efficiency class		C	C	D
Power supply	V/Ph/Hz	230V/50Hz/Single		
Rated current	A	5.4	5.4	5.4
Starting current	A	32		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	
	Air flow ⁽²⁾	H/M/L	m3/hr	
	External static pressure	Min-Max	Pa	
	Sound power level ⁽³⁾	H/M/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	
	Moisture removal		l/hr	
	Condensate drain tube I.D		mm	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		units	
	Stacking height		units	
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary PH225X2C-4FS	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	
	Air flow	H/L	m3/hr	
	Sound power level	H/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		Units	
	Stacking height		units	
	Refrigerant type		R22	
	Refrigerant chargless distance	kg/m	0.97kg/4m	
	Additional charge per 1 meter	g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m	
	Connections between units	Liquid line	In.(mm)	1/4"(6.35)
Suction line		In.(mm)	1/2"(12.7)	
Max.tubing length		m.	Max.15	
Max.height difference		m.	Max.7	
Operation control type		Remote control		
Heating elements	kW	0.3		
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.26 WNG 14 / GC 14 R22

Model Indoor Unit		WNG-14		
Model Outdoor Unit		GC-14		
Installation Method of Pipe		Flared		
Characteristics	Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	14190	14190	14880
	kW	4.12	4.12	4.75
Power input ⁽¹⁾	kW	1.65	1.65	1.690
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.50	2.50	2.81
Energy efficiency class		E	E	D
Power supply	V/Ph/Hz	230V/50Hz/Single		
Rated current	A	7.5	7.5	7.7
Starting current	A	41		
Circuit breaker rating	A	15		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	1230/1080/930
	Air flow ⁽²⁾	H/M/L	m3/hr	635/550/450
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	55/51/47
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	43/39/35
	Moisture removal		l/hr	2
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	810x285x190
	Weight		kg	11
	Package dimensions	WxHxD	mm	885x285x360
	Packaged weight		kg	14.5
	Units per pallet		units	32
	Stacking height		units	8 levels
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary QJ292PT23A	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	830
	Air flow	H/L	m3/hr	1720
	Sound power level	H/L	dB(A)	64
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	54
	Dimensions	WxHxD	mm	830*245*545
	Weight		kg	37
	Package dimensions	WxHxD	mm	880*310*610
	Packaged weight		kg	41
	Units per pallet		Units	12
	Stacking height		units	3 levels
	Refrigerant type			R22
	Refrigerant chargeless distance		kg/m	1.0kg/4m
	Additional charge per 1 meter		g/m	4m<Lin<8m:+5g/m Lin>8m:+9g/m
Connections between units	Liquid line	In.(mm)	1/4"(6.35)	
	Suction line	In.(mm)	1/2"(12.7)	
	Max.tubing length	m.	Max.15	
	Max.height difference	m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.27 WNG 14 / ONG3-14 R22

Model Indoor Unit		WNG-14		
Model Outdoor Unit		ONG3-14		
Installation Method of Pipe		Flared		
Characteristics		Units	cooling only	Cooling
Capacity ⁽¹⁾		Btu/hr	14190	14190
		kW	4.2	4.2
Power input ⁽¹⁾		kW	1.55	1.55
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.71	2.71
Energy efficiency class			D	D
Power supply		V/Ph/Hz	230V/50Hz/Single	
Rated current		A	6.9	6.9
Starting current		A	41	
Circuit breaker rating		A	15	
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	
	Air flow ⁽²⁾	H/M/L	m3/hr	
	External static pressure	Min-Max	Pa	
	Sound power level ⁽³⁾	H/M/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	
	Moisture removal		l/hr	
	Condensate drain tube I.D		mm	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		units	
	Stacking height		units	
OUTDOOR	Refrigerant control		Capillary tube	
	Compressor type,model		Rotary QJ292PT23A	
	Fan type & quantity		Propeller(direct) x 1	
	Fan speeds	H/L	RPM	
	Air flow	H/L	m3/hr	
	Sound power level	H/L	dB(A)	
	Sound pressure level ⁽⁴⁾	H/L	dB(A)	
	Dimensions	WxHxD	mm	
	Weight		kg	
	Package dimensions	WxHxD	mm	
	Packaged weight		kg	
	Units per pallet		Units	
	Stacking height		units	
	Refrigerant type		R22	
	Refrigerant chargeless distance		kg/m	
	Additional charge per 1 meter		g/m	
	Connections between units	Liquid line	In.(mm)	1/4"(6.35)
Suction line		In.(mm)	1/2"(12.7)	
Max.tubing length		m.	Max.15	
Max.height difference		m.	Max.7	
Operation control type			Remote control	
Heating elements		kW	0.3	
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.28 WNG 25 / GC 24 R22

Model Indoor Unit		WNG-25		
Model Outdoor Unit		GC-24		
Installation Method of Pipe		Flared		
Characteristics	Units	cooling only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	24050	24050	24230
	kW	7.05	7.05	7.1
Power input ⁽¹⁾	kW	2.51	2.51	2.35
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.81	2.81	3.02
Energy efficiency class		A	A	B
Power supply	V/Ph/Hz	230V/Single/50Hz		
Rated current	A	11.4	11.4	10.8
Starting current	A	58		
Circuit breaker rating	A	20		
INDOOR	Fan type & quantity		Crossflow x 1	
	Fan speeds	H/M/L	RPM	1050/930/800
	Air flow ⁽²⁾	H/M/L	m3/hr	1050/930/800
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽³⁾	H/M/L	dB(A)	59/55/52
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	46/43/39
	Moisture removal		l/hr	3.5
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1200X340X236
	Weight		kg	17
	Package dimensions	WxHxD	mm	1305X430X325
	Packaged weight		kg	25.5
	Units per pallet		units	12
	Stacking height		units	6 levels
	OUTDOOR	Refrigerant control		Capillary tube restrictor (for heating)
Compressor type,model		Scroll,LG SQ032PBA		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	850
Air flow		H/L	m3/hr	2480
Sound power level		H/L	dB(A)	70
Sound pressure level ⁽⁴⁾		H/L	dB(A)	60
Dimensions		WxHxD	mm	846X302X690
Weight			kg	58
Package dimensions		WxHxD	mm	990X430X770
Packaged weight			kg	61
Units per pallet			Units	9
Stacking height			units	3 levels
Refrigerant type		R22		
Refrigerant chargless distance		kg/m 1.66kg/7.5m		
Additional charge		g/m	7.5m<Lin<25m:+25g/m 7.5m<Lin<25m:+60g/m	
Connections between units		Liquid line	In.(mm)	3/8"(9.53)
	Suction line	In.(mm)	5/8"(15.88)	
	Max.tubing length	m.	Max.25	
	Max.height difference	m.	Max.10	
Operation control type		Remote control		
Heating elements		kW	0.3	
Others				

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.29 WNG 30 / GC 30 R22

Model Indoor Unit		WNG-30			
Model Outdoor Unit		GC-30			
Installation Method of Pipe		Flared			
Characteristics	Units	cooling only	Cooling	Heating	
Capacity ⁽¹⁾	Btu/hr	29000	29000	32410	
	kW	8.5	8.5	9.5	
Power input ⁽¹⁾	kW	3.1	3.1	3.25	
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.74	2.74	2.92	
Energy efficiency class		A	A	B	
Power supply	V/Ph/Hz	230V/Single/50Hz			
Rated current	A	13.7	13.7	14.2	
Starting current	A	73			
Circuit breaker rating	A	25			
INDOOR	Fan type & quantity		Crossflow x 1		
	Fan speeds	H/M/L	RPM		
	Air flow ⁽²⁾	H/M/L	m3/hr		
	External static pressure	Min-Max	Pa		
	Sound power level ⁽³⁾	H/M/L	dB(A)		
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)		
	Moisture removal		l/hr		
	Condensate drain tube I.D		mm		
	Dimensions	WxHxD	mm		
	Weight		kg		
	Package dimensions	WxHxD	mm		
	Packaged weight		kg		
	Units per pallet		units		
	Stacking height		units		
	OUTDOOR	Refrigerant control		Capillary tube restrictor for heating)	
Compressor type,model		Scroll,LG SQ040PAA			
Fan type & quantity		Propeller(direct) x 1			
Fan speeds		H/L	RPM		
Air flow		H/L	m3/hr		
Sound power level		H/L	dB(A)		
Sound pressure level ⁽⁴⁾		H/L	dB(A)		
Dimensions		WxHxD	mm		
Weight			kg	87	90
Package dimensions		WxHxD	mm		
Packaged weight			kg		
Units per pallet			Units		
Stacking height			units		
Refrigerant type			R22		
Refrigerant chargeless distance			kg/m		
Additional charge			g/m		
Connections between units		Liquid line	In.(mm)	3/8"(9.53)	
	Suction line	In.(mm)	5/8"(15.88)		
	Max.tubing length	m.	Max.30		
	Max.height difference	m.	Max.20		
Operation control type		Remote control			
Heating elements		kW	0.3		
Others					

(1) Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

(2) Airflow in ducted units; at nominal external static pressure.

(3) Sound power in ducted units is measured at air discharge.

(4) Sound pressure level measured at 1 meter distance from unit.

2.30 WNG 30 / OU8-30 R22

Model Indoor Unit		WNG 30		
Model Outdoor Unit		OU8-30		
Installation Method of Pipe		Flared		
Characteristics	Units	Cooling Only	Cooling	Heating
Capacity ⁽¹⁾	Btu/hr	30000	30000	29500
	kW	8.8	8.8	8.65
Power input ⁽¹⁾	kW	3.2	3.2	3.3
EER (Cooling) or COP(Heating) ⁽¹⁾	W/W	2.75	2.75	2.65
Energy efficiency class		D	D	E
Power supply	V/Ph/Hz	220-240V/Single/50Hz		
Rated current	A	13.9	13.9	14.3
Starting current	A	76		
Circuit breaker rating	A	16		
INDOOR	Fan type & quantity		Cross flow x 1	
	Fan speeds	H/M/L	RPM	1300/1200/1000
	Air flow ⁽²⁾	H/M/L	m3/hr	1250/1040/830
	External static pressure	Min-Max	Pa	N/A
	Sound power level ⁽³⁾	H/M/L	dB(A)	64/59/53
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	54/52/41
	Moisture removal		l/hr	3.2
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	1200X340X236
	Weight		kg	18.5
	Package dimensions	WxHxD	mm	1305X430X325
	Packaged weight		kg	25.5
	Units per pallet		units	12
	Stacking height		units	6 levels
	OUTDOOR	Refrigerant control		Capillary
Compressor type, model		SCROLL SQ040PA		
Fan type & quantity		Propeller(direct) x 1		
Fan speeds		H/L	RPM	850
Air flow		H/L	m3/hr	3110
Sound power level		H/L	dB(A)	69
Sound pressure level ⁽⁴⁾		H/L	dB(A)	62
Dimensions		WxHxD	mm	900X860X340
Weight			kg	78
Package dimensions		WxHxD	mm	903X907X435
Packaged weight			kg	82
Units per pallet			Units	6
Stacking height			units	3 levels
Refrigerant type				R22
Refrigerant charge less distance			kg/m	2 / 7.5M
Additional charge		gr/m	30	
Connections between units	Liquid line	In.(mm)	3/8"(9.53)	
	Suction line	In.(mm)	3/4"(19.05)	
	Max.tubing length	m.	30	
	Max.height difference	m.	15	
Operation control type		Remote control		

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

2.31 WNG 30 / OU8-30T R22

Model Indoor Unit		WNG 30			
Model Outdoor Unit		OU8-30T			
Installation Method of Pipe		Flared			
Characteristics		Units	Cooling Only	Cooling	
Capacity ⁽¹⁾		Btu/hr	30000	30000	
		kW	8.8	8.8	
Power input ⁽¹⁾		kW	3	3	
EER (Cooling) or COP(Heating) ⁽¹⁾		W/W	2.9	2.9	
Energy efficiency class			C	D	
Power supply		V/Ph/Hz	400V/3PH/50Hz		
Rated current		A	6.5	6.5	
Starting current		A	35		
Circuit breaker rating		A	16		
INDOOR	Fan type & quantity		Cross flow x 1		
	Fan speeds	H/M/L	RPM	1300/1200/1000	
	Air flow ⁽²⁾	H/M/L	m3/hr	1250/1040/830	
	External static pressure	Min-Max	Pa	N/A	
	Sound power level ⁽³⁾	H/M/L	dB(A)	64/59/53	
	Sound pressure level ⁽⁴⁾	H/M/L	dB(A)	54/52/41	
	Moisture removal		l/hr	3.2	
	Condensate drain tube I.D		mm	16	
	Dimensions	WxHxD	mm	1200X340X236	
	Weight		kg	18.5	
	Package dimensions	WxHxD	mm	1305X430X325	
	Packaged weight		kg	25.5	
	Units per pallet		units	12	
	Stacking height		units	6 levels	
	OUTDOOR	Refrigerant control		Capillary	
Compressor type, model		SCROLL SQ040YA			
Fan type & quantity		Propeller(direct) x 1			
Fan speeds		H/L	RPM	850	
Air flow		H/L	m3/hr	3110	
Sound power level		H/L	dB(A)	69	
Sound pressure level ⁽⁴⁾		H/L	dB(A)	62	
Dimensions		WxHxD	mm	900X860X340	
Weight		kg	78		
Package dimensions		WxHxD	mm	903X907X435	
Packaged weight		kg	82		
Units per pallet		Units	6		
Stacking height		units	3 levels		
Refrigerant type		R22			
Refrigerant charge less distance		kg/m	2 / 7.5M		
Additional charge		gr/m	30		
Connections between units	Liquid line	In.(mm)	3/8"(9.53)		
	Suction line	In.(mm)	3/4"(19.05)		
	Max.tubing length	m.	30		
	Max.height difference	m.	15		
Operation control type			Remote control		

⁽¹⁾ Rating conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

⁽²⁾ Airflow in ducted units; at nominal external static pressure.

⁽³⁾ Sound power in ducted units is measured at air discharge.

⁽⁴⁾ Sound pressure level measured at 1 meter distance from unit.

3. RATING CONDITIONS

Standard conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

Cooling:

Indoor: 27°C DB 19°C WB

Outdoor: 35°C DB

Heating:

Indoor: 20°C DB

Outdoor: 7°C DB 6°C WB

3.1 Operating Limits

3.1.1 R410A

		Indoor	Outdoor
Cooling	Upper limit	32°C DB 23°C WB	46°C DB
	Lower limit	21°C DB 15°C WB	21°C DB
Heating	Upper limit	27°C DB	24°C DB 18°C WB
	Lower limit	20°C DB	-9°C DB -10°C WB
Voltage	1PH	198 – 264 V	
	3PH	360 – 440 V	

3.1.2 R407C

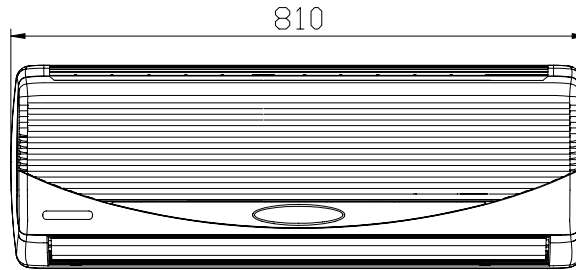
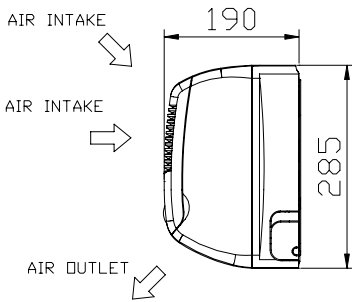
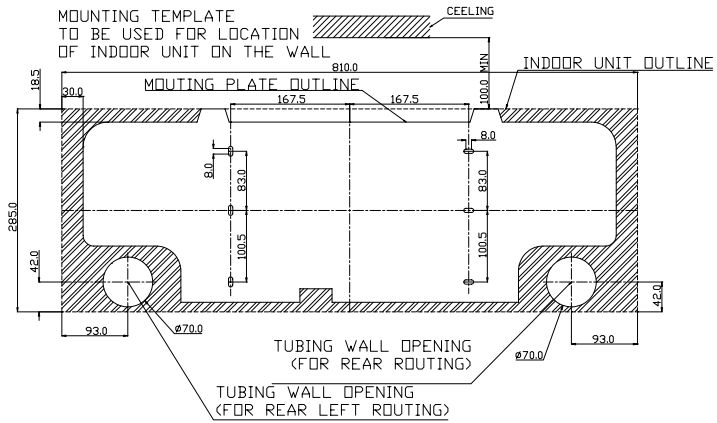
		Indoor	Outdoor
Cooling	Upper limit	32°C DB 23°C WB	46°C DB
	Lower limit	21°C DB 15°C WB	21°C DB
Heating	Upper limit	27°C DB	24°C DB 18°C WB
	Lower limit	20°C DB	-9°C DB -10°C WB
Voltage	1PH	198 – 264 V	
	3PH	360 – 440 V	

3.1.3 R22

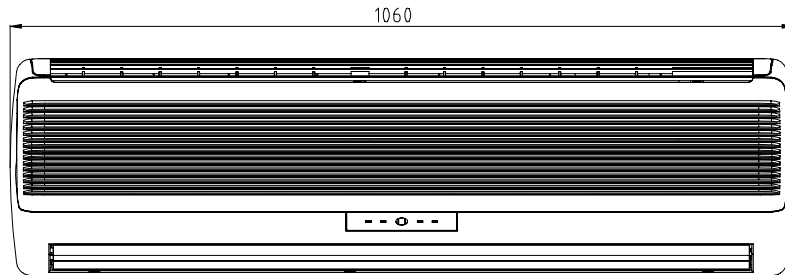
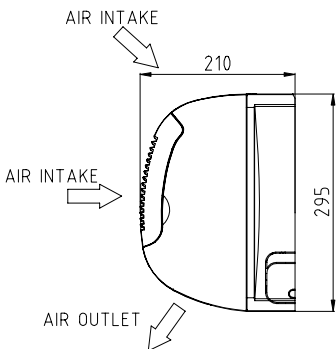
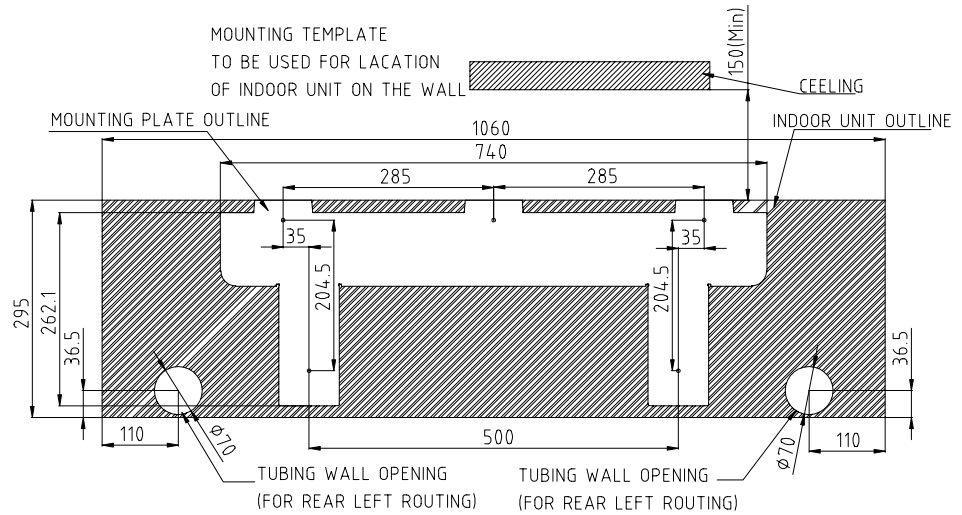
		Indoor	Outdoor
Cooling	Upper limit	32°C DB 23°C WB	46°C DB
	Lower limit	21°C DB 15°C WB	10°C DB
Heating	Upper limit	27°C DB	24°C DB 18°C WB
	Lower limit	10°C DB	-5°C DB -6°C WB
Voltage	1PH	198 – 264 V	
	3PH	360 – 440 V	

4. OUTLINE DIMENSIONS

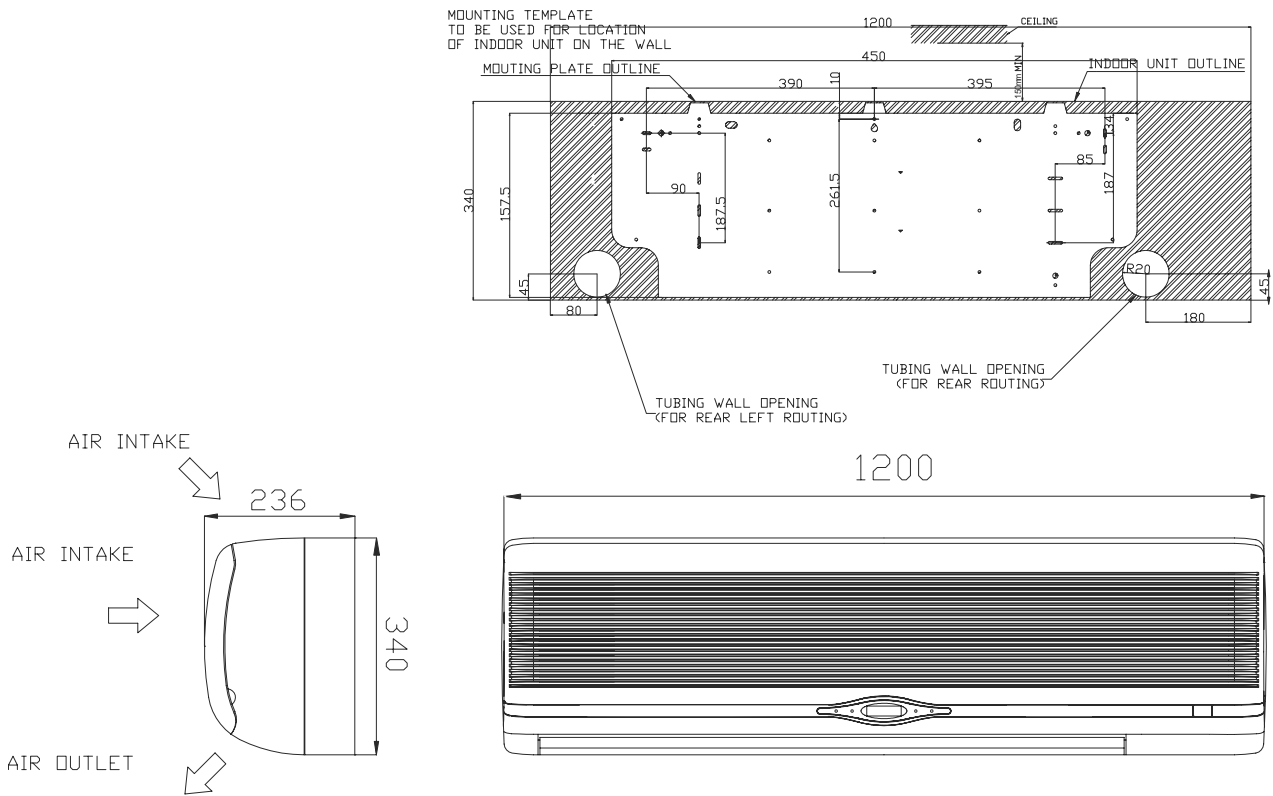
4.1 WNG 7, 9, 12, 14



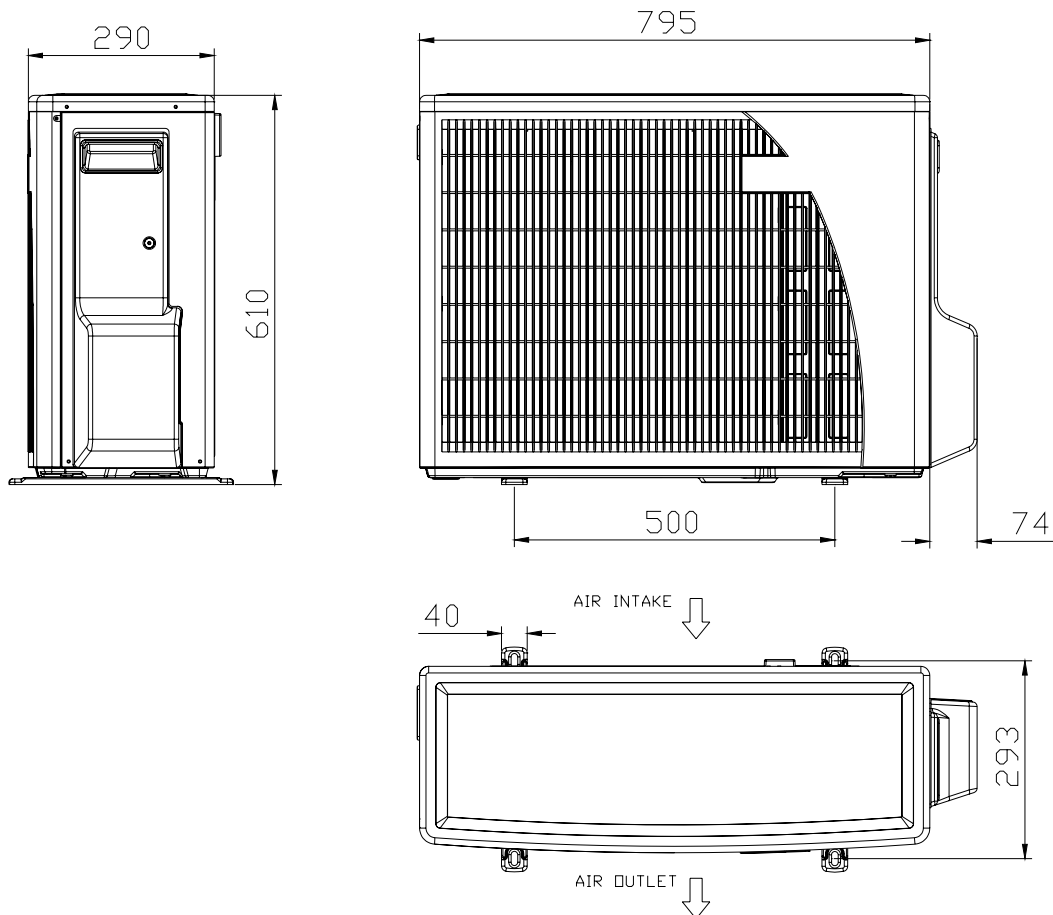
4.2 WNG 18, 21, 24



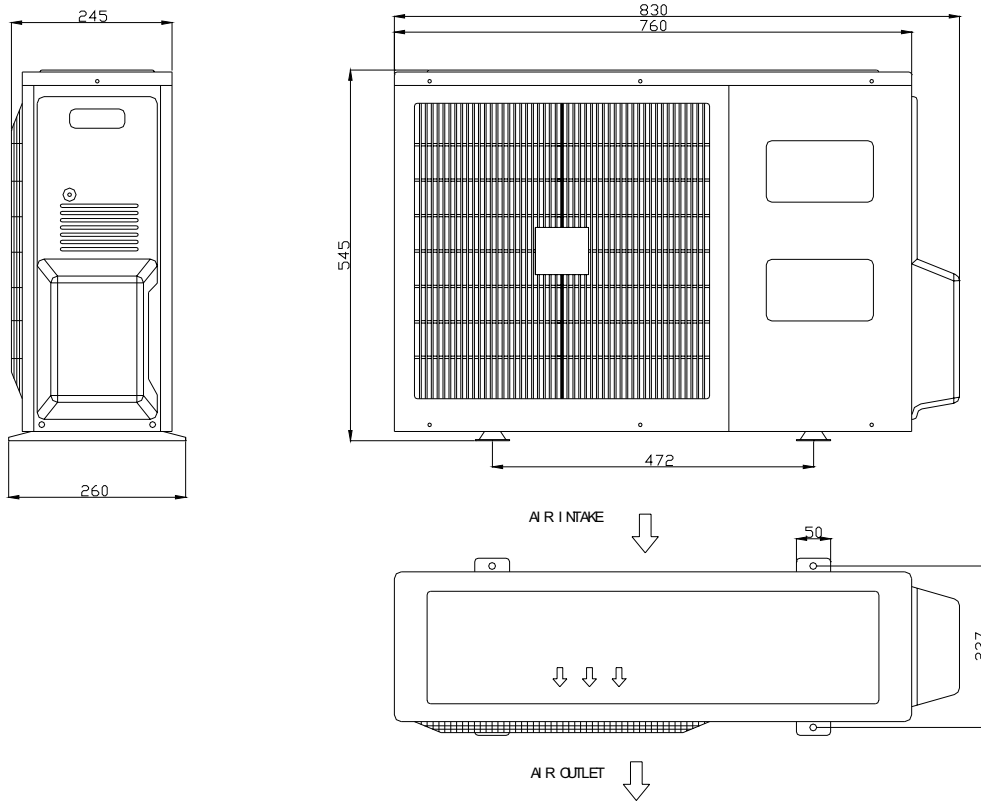
4.3 WNG 25, 30, 36



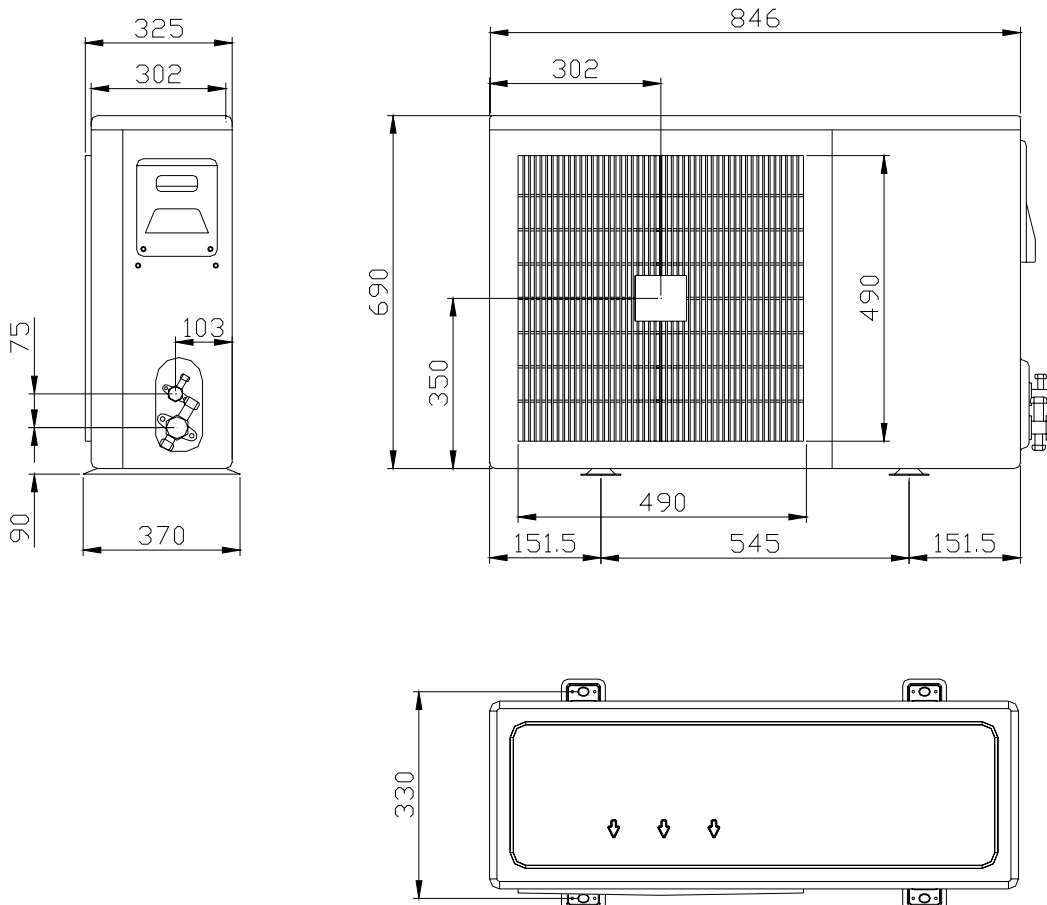
4.4 ONG 7, 9, 12, 14 RC/ST



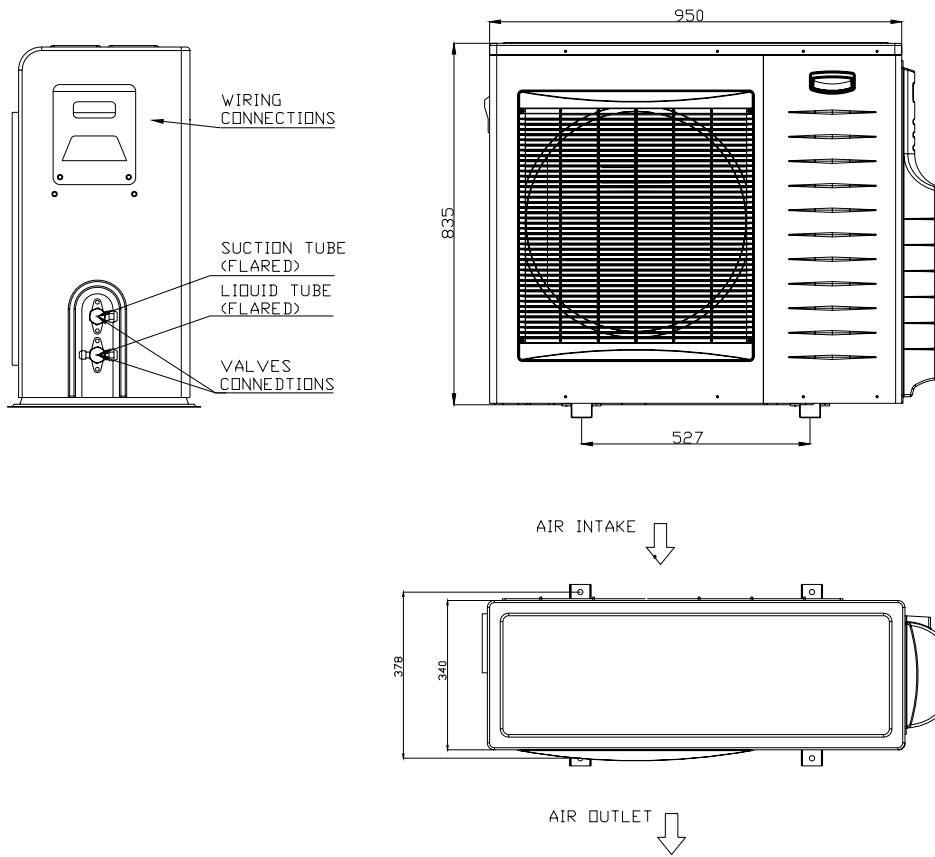
4.5 GCN 7, 9, 12, 14 RC/ST



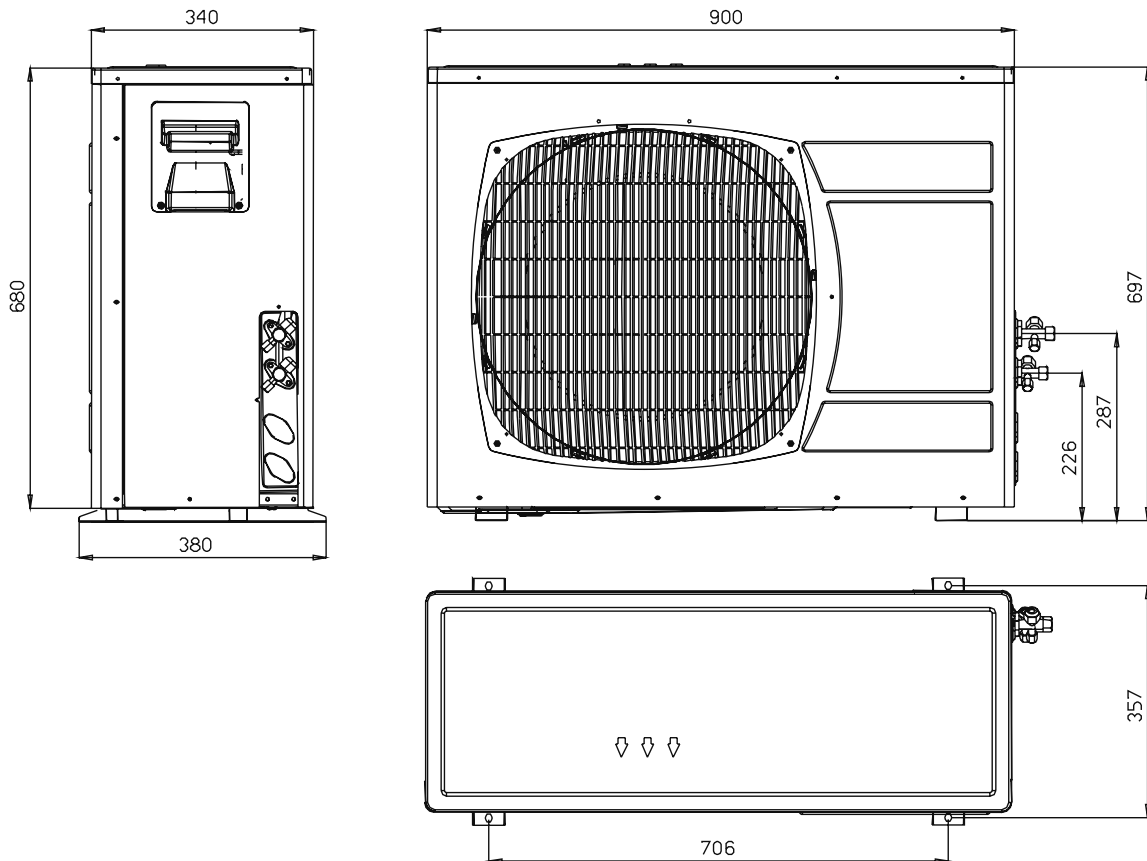
4.6 GC 18, 21, 24 RC/ST



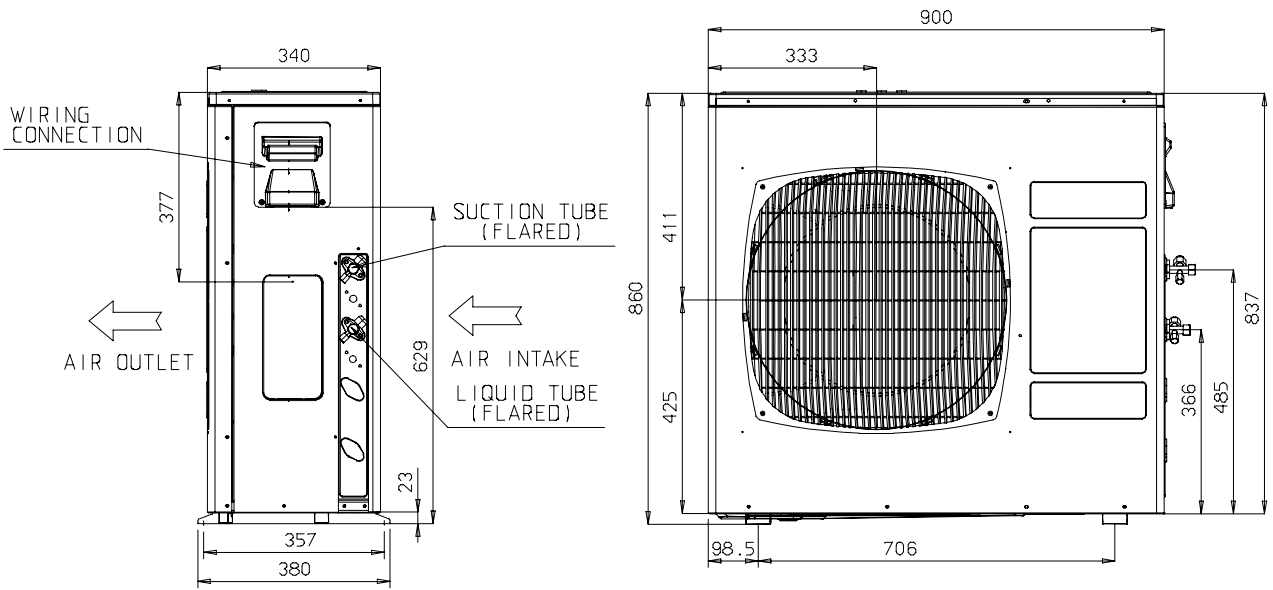
4.7 GC 30 RC/ST



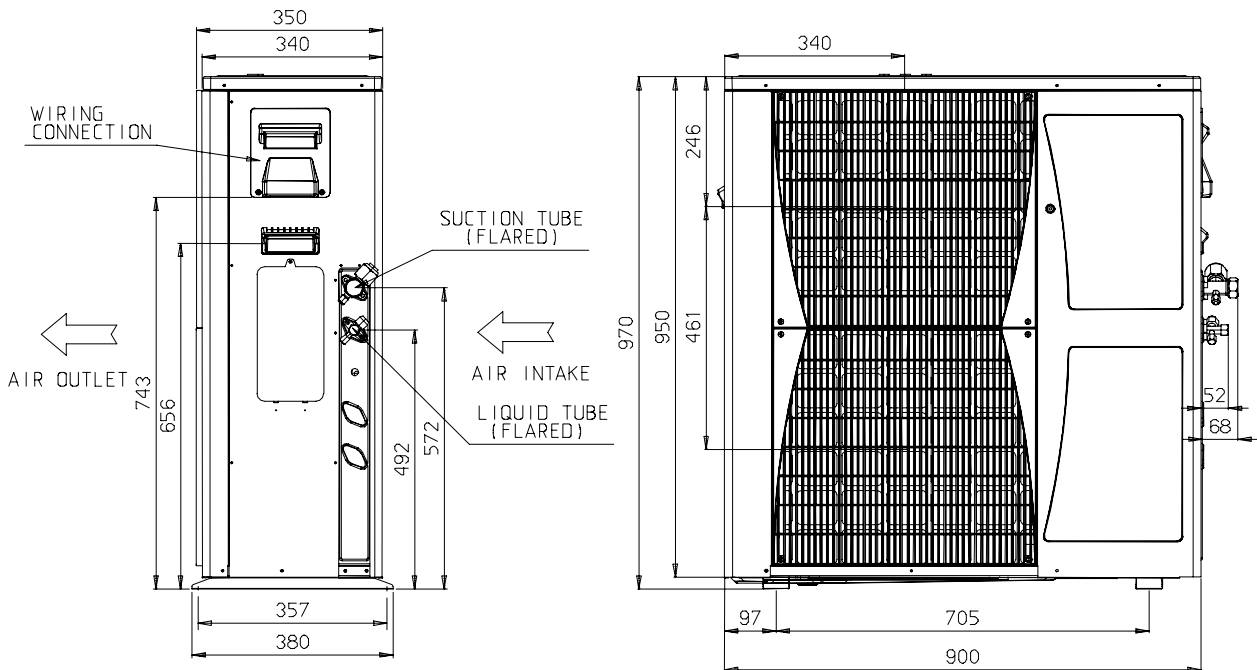
4.8 OU7-24 / OU7-24Z RC/ST



4.9 OU8-33 RC/ST



4.10 OU10-36 RC/ST



5. PERFORMANCE DATA & PRESSURE CURVES

5.1 WNG7 ONG7 R410A

5.1.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.35	2.43	2.49	2.55	2.59
	SC	1.66	1.74	1.80	1.85	1.88
	PI	0.48	0.48	0.48	0.49	0.49
20 ⁽¹⁾	TC	2.27	2.40	2.47	2.53	2.59
	SC	1.63	1.72	1.79	1.84	1.88
	PI	0.52	0.53	0.53	0.53	0.53
25	TC	2.15	2.32	2.44	2.52	2.58
	SC	1.59	1.69	1.78	1.83	1.86
	PI	0.57	0.57	0.57	0.58	0.58
30	TC	2.01	2.19	2.37	2.45	2.52
	SC	1.54	1.64	1.74	1.79	1.83
	PI	0.61	0.62	0.62	0.63	0.64
35	TC	1.86	2.02	2.23	2.34	2.45
	SC	1.46	1.57	1.70	1.75	1.78
	PI	0.66	0.67	0.68	0.69	0.69
40	TC	1.69	1.84	2.01	2.20	2.31
	SC	1.38	1.49	1.61	1.66	1.69
	PI	0.71	0.72	0.73	0.74	0.75
46	TC	1.47	1.61	1.77	1.95	2.10
	SC	1.27	1.36	1.47	1.52	1.55
	PI	0.78	0.79	0.81	0.82	0.83

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.1.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.20	0.54	1.15	0.57	1.11	0.60
-7	1.29	0.55	1.24	0.58	1.20	0.61
-2	1.37	0.56	1.32	0.59	1.28	0.62
2	1.66	0.58	1.60	0.62	1.53	0.66
6	2.35	0.63	2.28	0.67	2.20	0.71
10	2.55	0.66	2.49	0.71	2.42	0.76
15	2.76	0.69	2.69	0.74	2.62	0.79
20	2.91	0.71	2.84	0.77	2.76	0.83

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.2 Capacity Correction Factor Due to Tubing Length

5.2.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.949	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

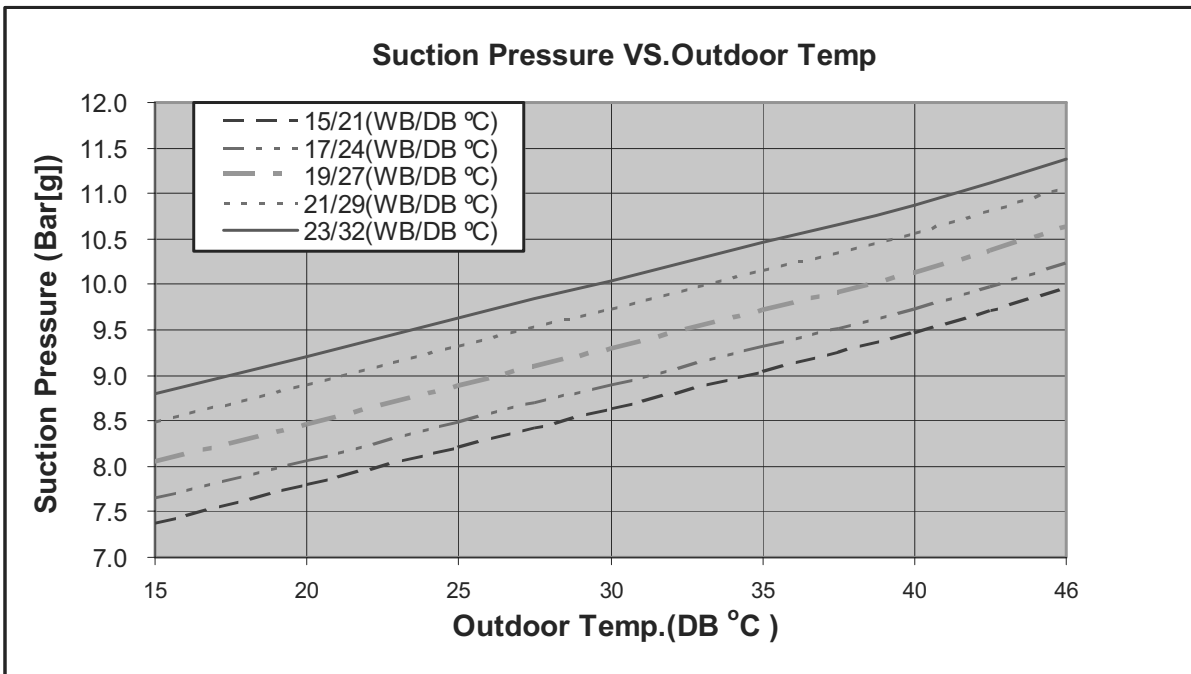
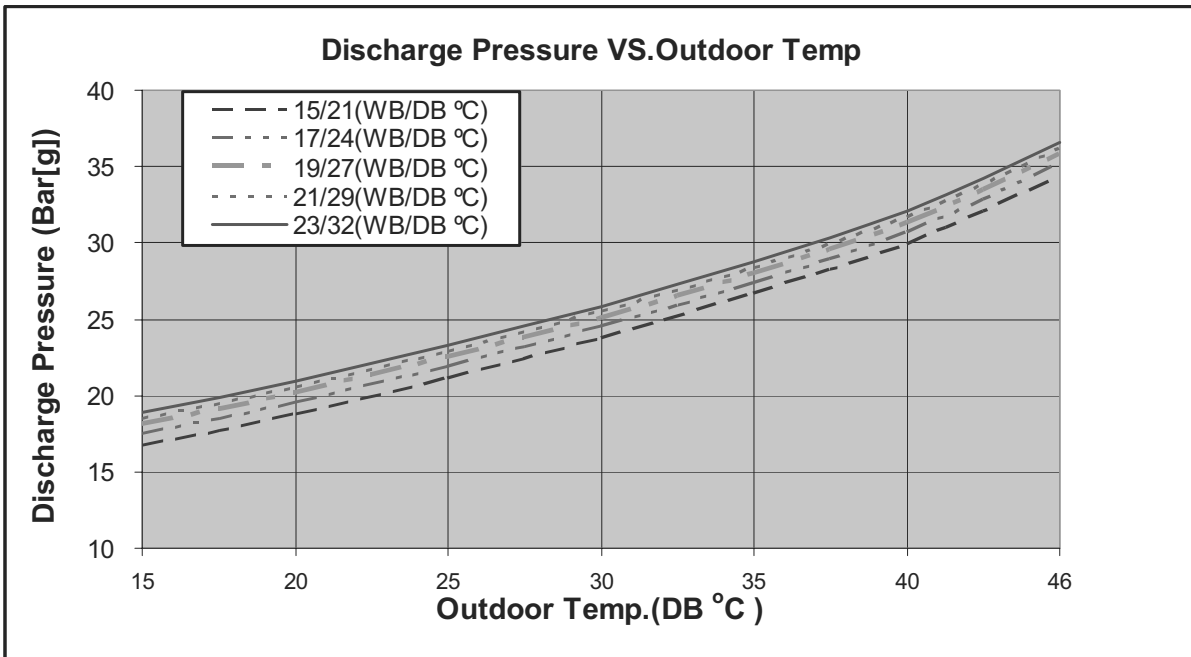
5.2.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	0.975	0.965	---	---	---	---	---

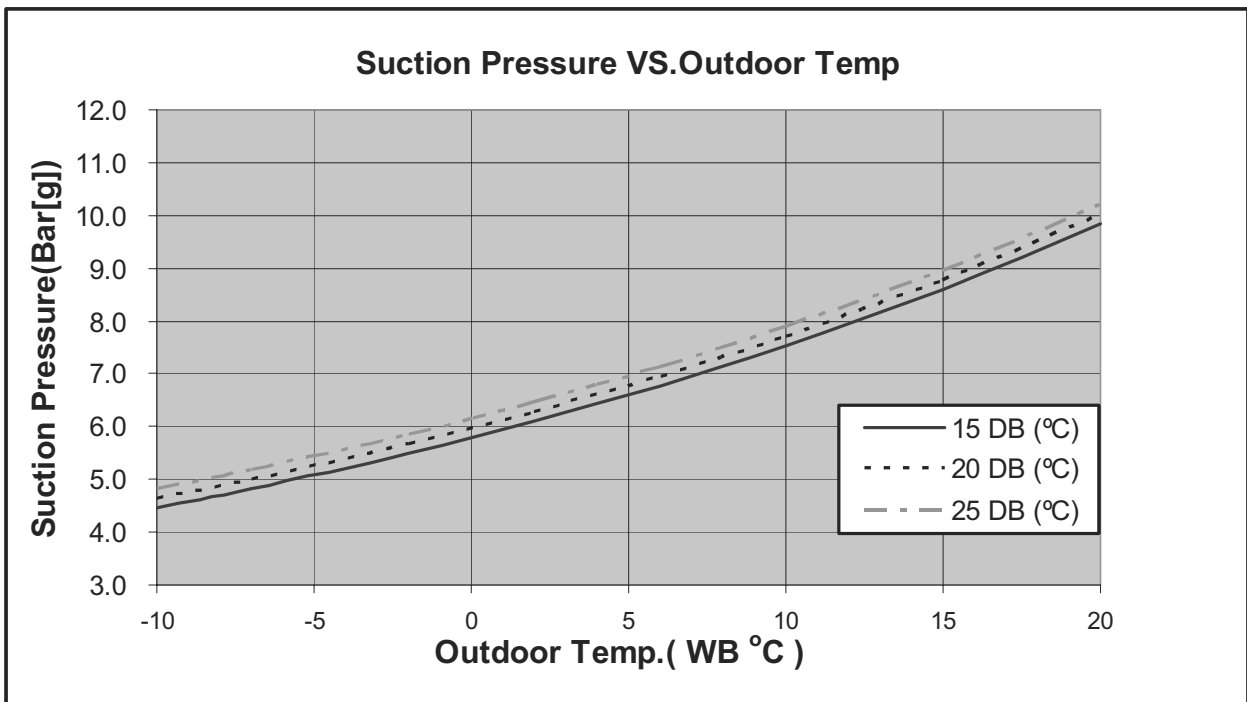
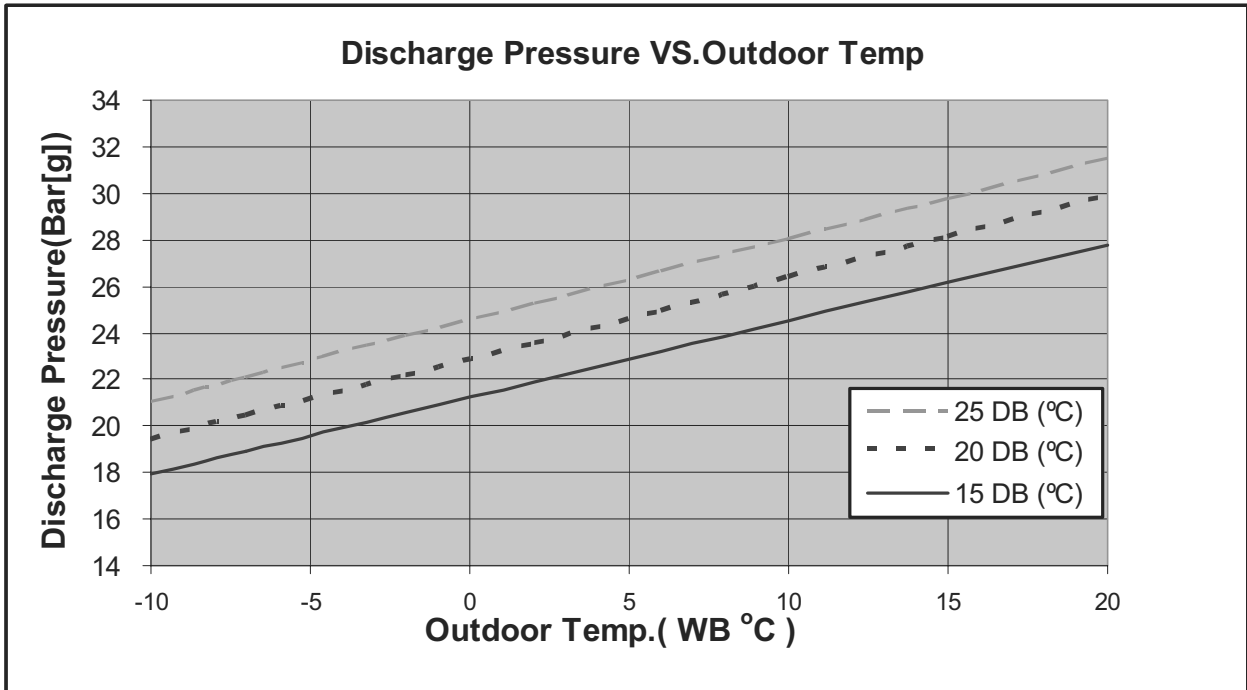
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.3 Pressure Curves.

5.3.1 Cooling.



5.3.2 Heating.



5.4 WNG9 ONG9 R410A

5.4.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.87	2.97	3.04	3.11	3.16
	SC	1.96	2.04	2.12	2.18	2.22
	PI	0.59	0.59	0.59	0.59	0.60
20 ⁽¹⁾	TC	2.77	2.92	3.02	3.09	3.15
	SC	1.92	2.02	2.11	2.17	2.21
	PI	0.64	0.64	0.64	0.65	0.65
25	TC	2.62	2.83	2.98	3.07	3.14
	SC	1.87	1.98	2.09	2.15	2.19
	PI	0.69	0.70	0.70	0.70	0.71
30	TC	2.45	2.67	2.89	2.99	3.08
	SC	1.81	1.93	2.05	2.11	2.15
	PI	0.74	0.76	0.76	0.77	0.78
35	TC	2.27	2.47	2.72	2.86	2.99
	SC	1.72	1.85	2.00	2.06	2.10
	PI	0.80	0.82	0.83	0.84	0.84
40	TC	2.07	2.25	2.45	2.68	2.82
	SC	1.62	1.75	1.89	1.95	1.99
	PI	0.87	0.88	0.89	0.91	0.91
46	TC	1.79	1.96	2.16	2.38	2.57
	SC	1.50	1.60	1.73	1.79	1.83
	PI	0.95	0.96	0.98	1.00	1.01

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.4.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.58	0.68	1.52	0.72	1.46	0.76
-7	1.70	0.70	1.64	0.74	1.58	0.78
-2	1.80	0.71	1.74	0.75	1.68	0.79
2	2.19	0.74	2.10	0.79	2.01	0.83
6	3.09	0.79	3.00	0.85	2.90	0.90
10	3.36	0.84	3.27	0.90	3.18	0.96
15	3.63	0.88	3.54	0.94	3.45	1.00
20	3.83	0.90	3.74	0.98	3.63	1.05

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.5 Capacity Correction Factor Due to Tubing Length

5.5.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.950	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

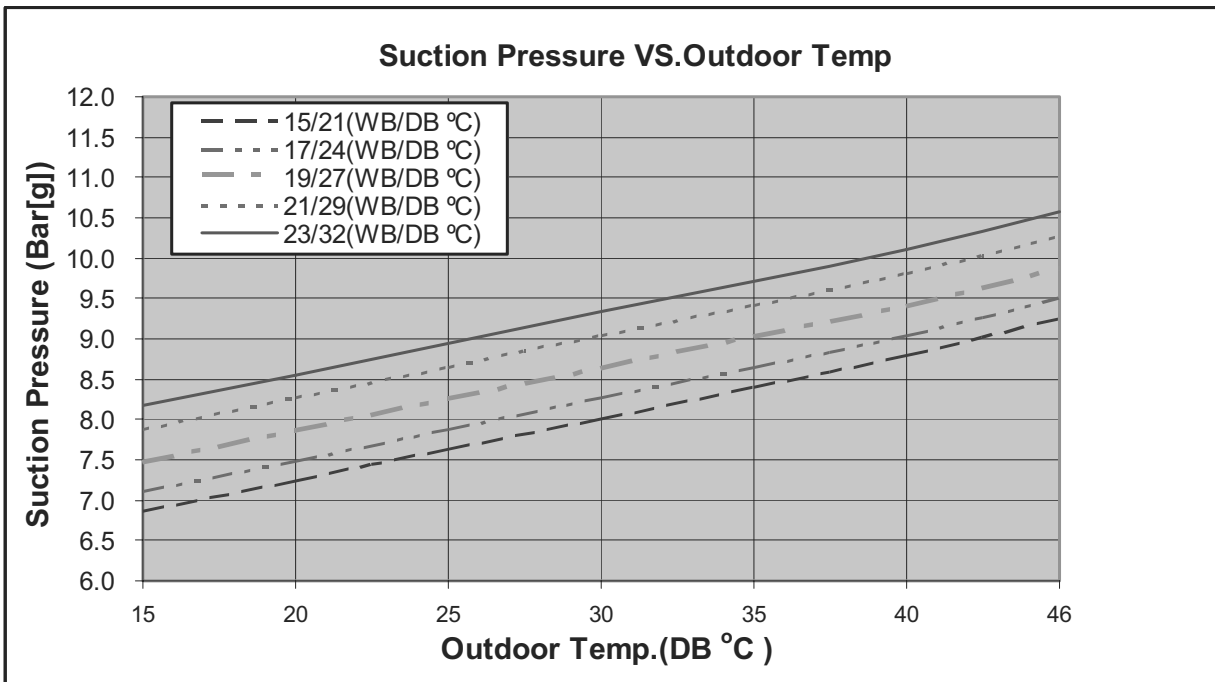
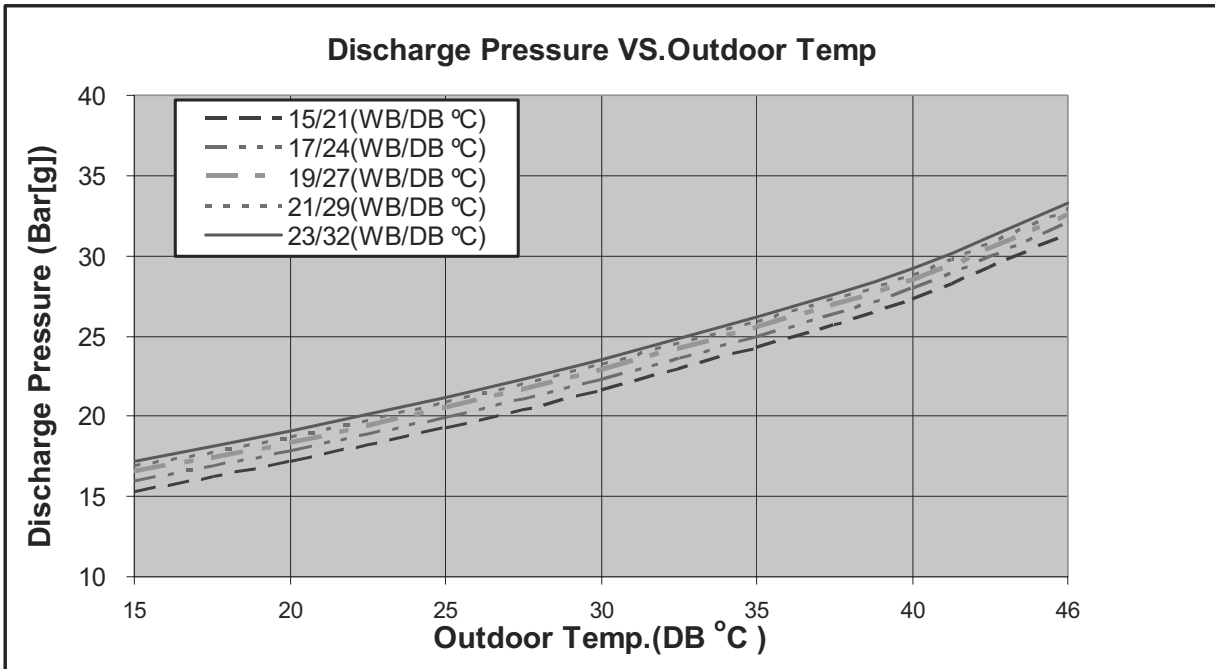
5.5.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	0.975	0.961	---	---	---	---	---

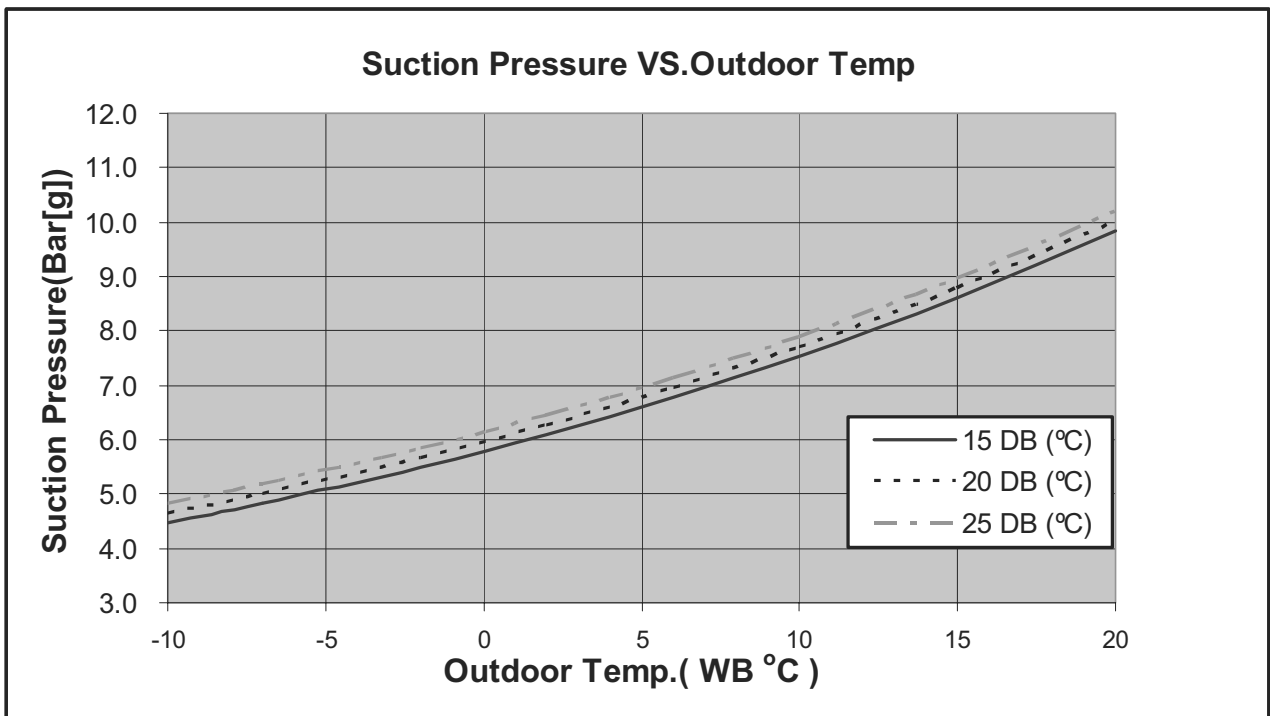
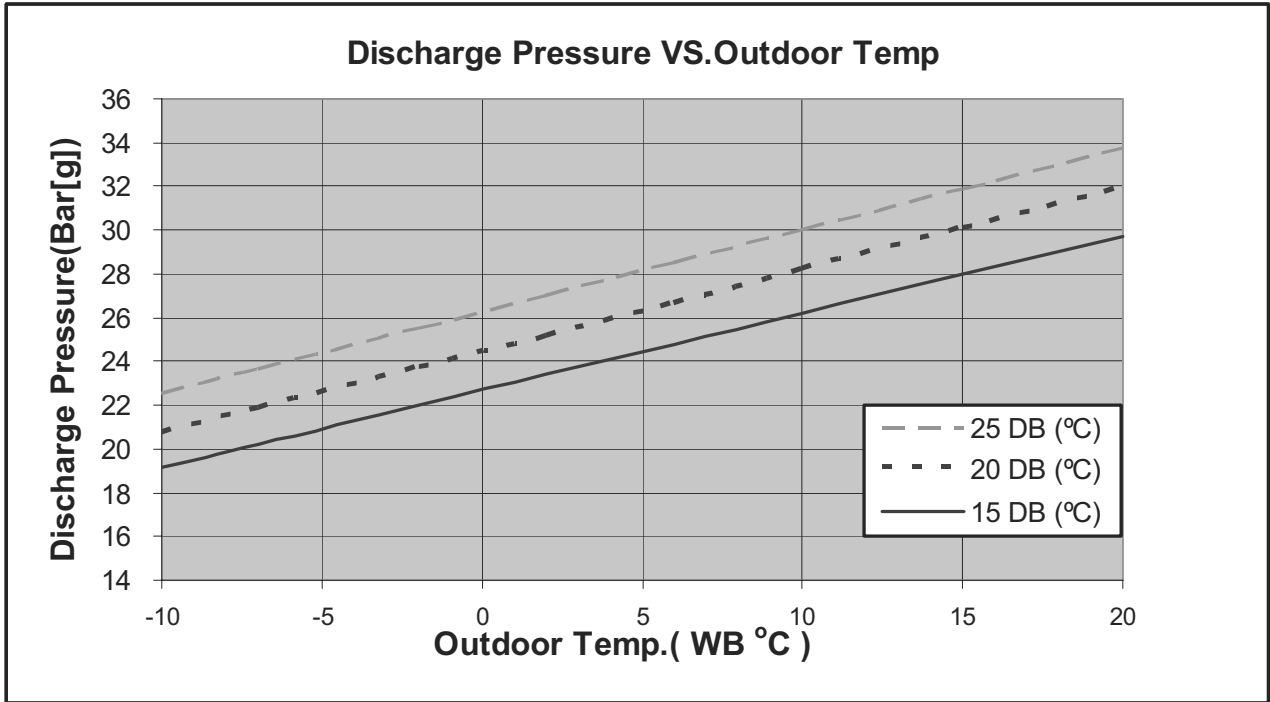
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.6 Pressure Curves.

5.6.1 Cooling.



5.6.2 Heating.



5.7 WNG12 ONG12 R410A

5.7.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	3.83	3.96	4.06	4.15	4.22
	SC	2.67	2.79	2.90	2.97	3.02
	PI	0.79	0.80	0.80	0.80	0.80
20 ⁽¹⁾	TC	3.70	3.90	4.02	4.12	4.21
	SC	2.62	2.76	2.88	2.96	3.02
	PI	0.86	0.87	0.87	0.87	0.87
25	TC	3.50	3.78	3.98	4.10	4.20
	SC	2.55	2.71	2.86	2.94	2.99
	PI	0.93	0.94	0.94	0.95	0.96
30	TC	3.28	3.57	3.85	3.99	4.11
	SC	2.47	2.63	2.79	2.88	2.93
	PI	1.01	1.02	1.03	1.04	1.05
35	TC	3.03	3.29	3.63	3.81	3.99
	SC	2.35	2.52	2.73	2.81	2.86
	PI	1.08	1.10	1.12	1.13	1.13
40	TC	2.76	3.00	3.28	3.58	3.77
	SC	2.22	2.39	2.58	2.66	2.72
	PI	1.17	1.19	1.21	1.22	1.23
46	TC	2.39	2.62	2.88	3.18	3.42
	SC	2.04	2.19	2.35	2.44	2.49
	PI	1.28	1.30	1.33	1.35	1.36

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.7.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.10	0.91	2.02	0.97	1.94	1.02
-7	2.26	0.93	2.18	0.99	2.10	1.04
-2	2.40	0.95	2.32	1.00	2.24	1.06
2	2.92	0.99	2.80	1.05	2.68	1.12
6	4.12	1.07	4.00	1.14	3.86	1.21
10	4.48	1.13	4.36	1.20	4.24	1.29
15	4.84	1.17	4.72	1.27	4.60	1.35
20	5.10	1.21	4.98	1.31	4.84	1.41

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.8 Capacity Correction Factor Due to Tubing Length

5.8.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.948	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

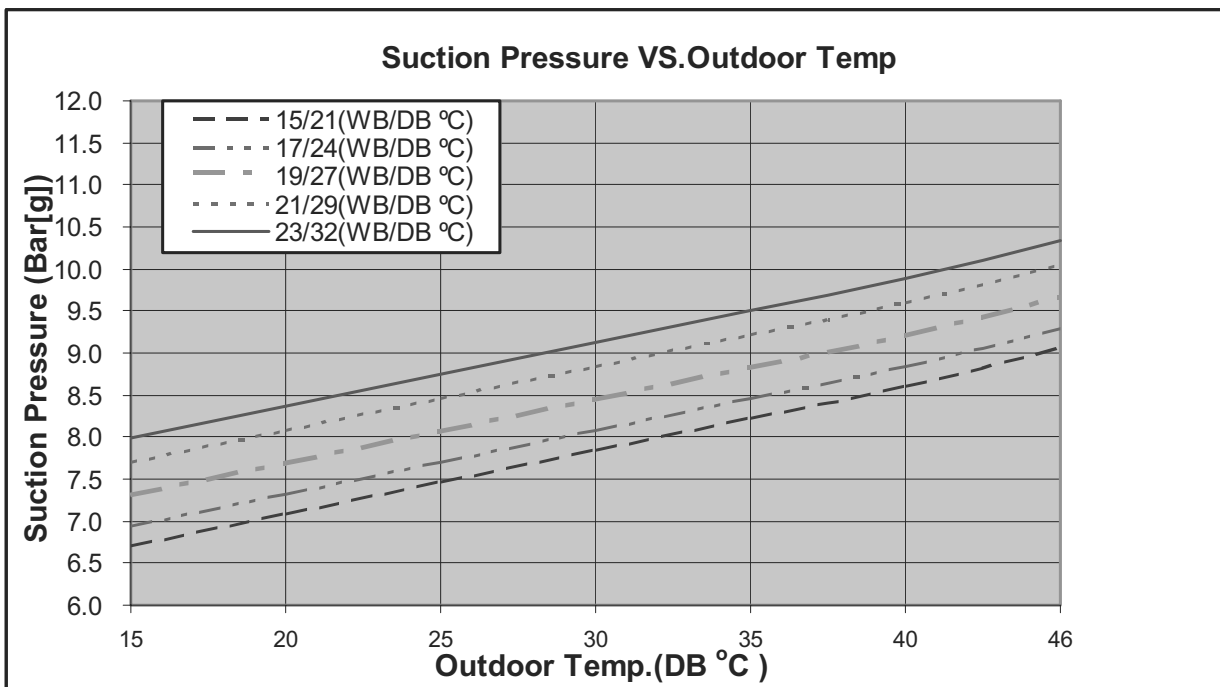
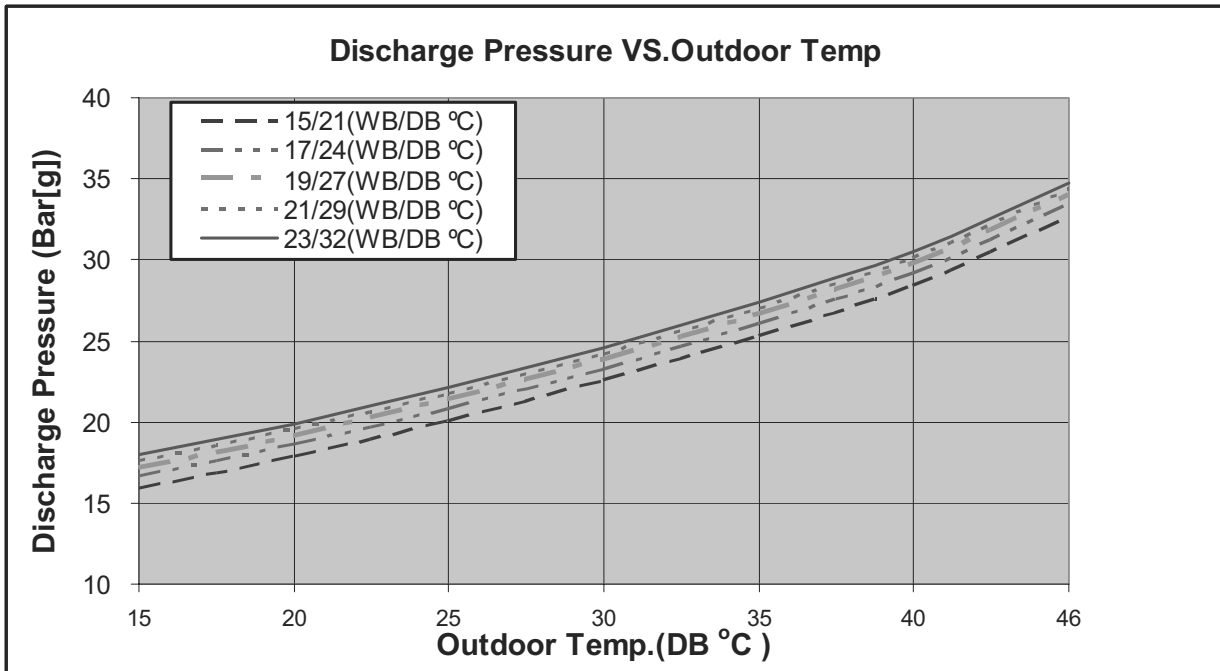
5.8.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	0.975	0.963	---	---	---	---	---

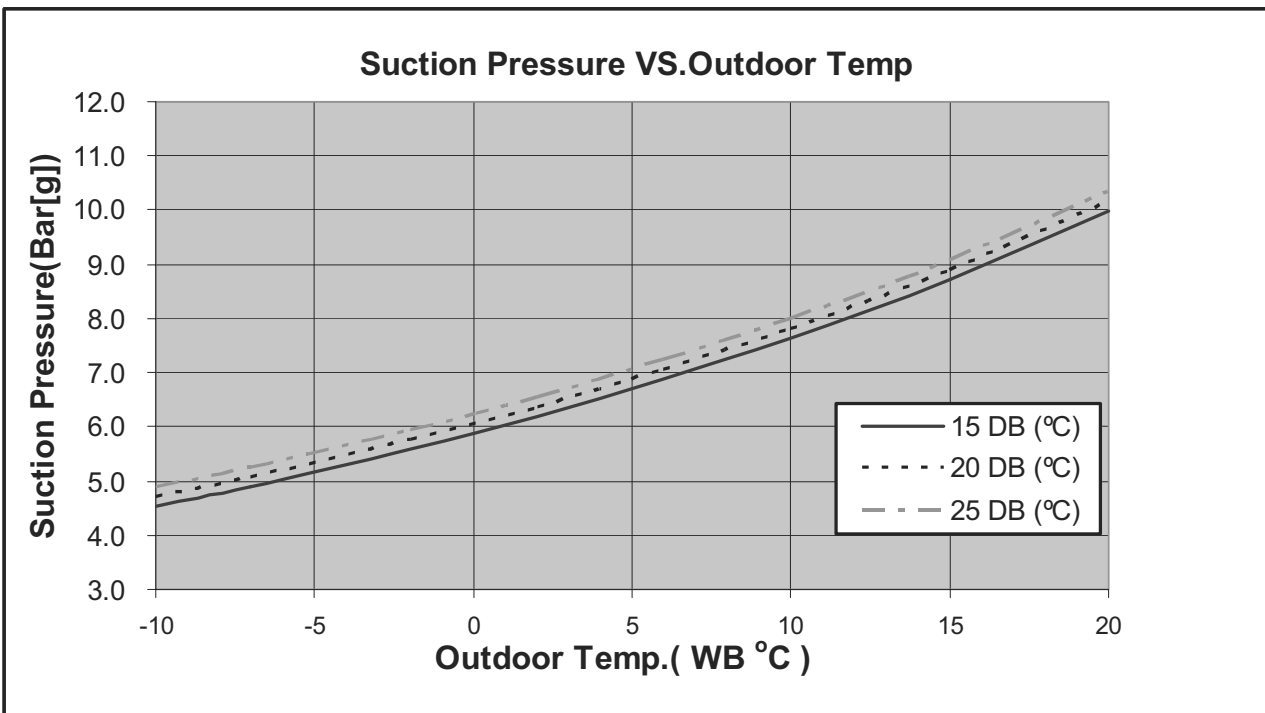
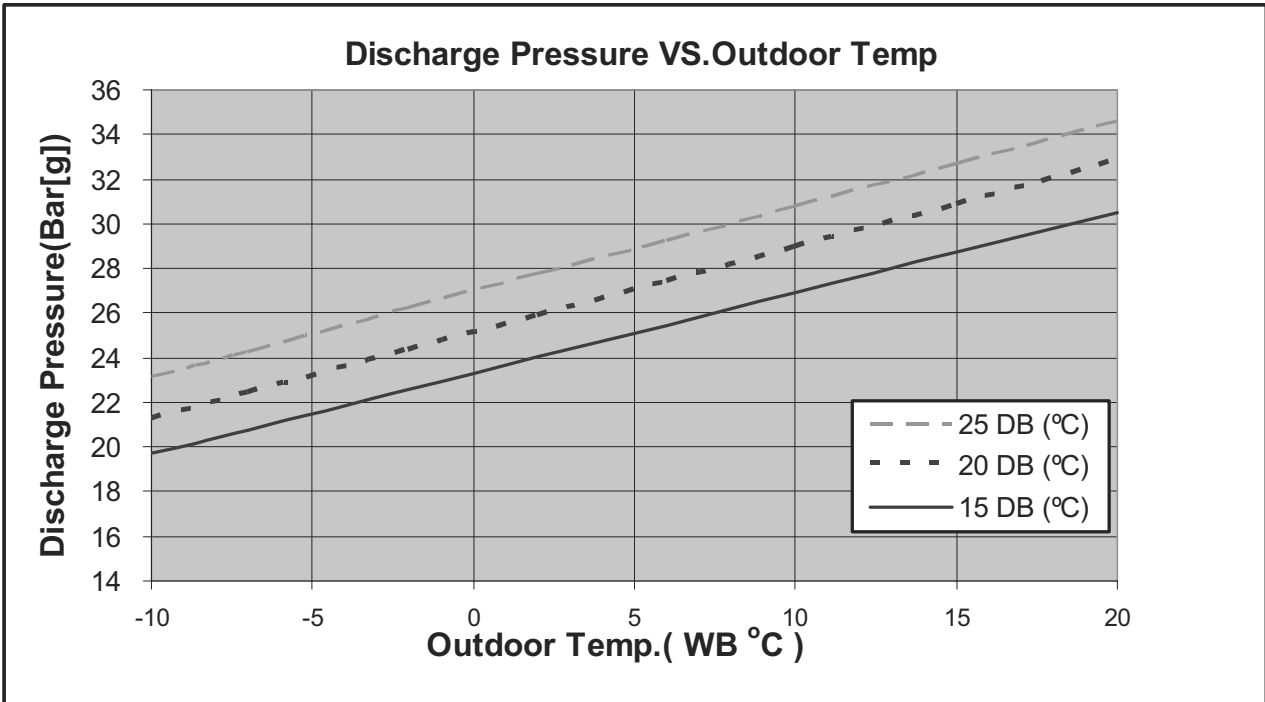
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.9 Pressure Curves.

5.9.1 Cooling.



5.9.2 Heating.



5.10 WNG14 ONG14 R410A

5.10.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	4.22	4.37	4.47	4.58	4.65
	SC	2.80	2.92	3.03	3.11	3.17
	PI	0.94	0.94	0.95	0.95	0.95
20 ⁽¹⁾	TC	4.08	4.30	4.44	4.54	4.64
	SC	2.75	2.89	3.02	3.10	3.16
	PI	1.02	1.03	1.03	1.04	1.04
25	TC	3.86	4.17	4.38	4.51	4.62
	SC	2.67	2.84	2.99	3.08	3.14
	PI	1.11	1.11	1.12	1.13	1.14
30	TC	3.61	3.93	4.25	4.40	4.53
	SC	2.59	2.75	2.93	3.01	3.07
	PI	1.19	1.21	1.22	1.23	1.24
35	TC	3.34	3.63	4.00	4.20	4.40
	SC	2.46	2.64	2.86	2.94	3.00
	PI	1.29	1.31	1.33	1.34	1.35
40	TC	3.04	3.31	3.61	3.95	4.15
	SC	2.32	2.50	2.71	2.79	2.85
	PI	1.39	1.41	1.43	1.45	1.47
46	TC	2.64	2.88	3.17	3.50	3.77
	SC	2.14	2.29	2.47	2.55	2.61
	PI	1.52	1.54	1.57	1.60	1.62

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.10.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.35	1.12	2.26	1.19	2.17	1.25
-7	2.53	1.15	2.44	1.21	2.35	1.28
-2	2.69	1.16	2.60	1.23	2.51	1.30
2	3.27	1.22	3.14	1.30	3.00	1.37
6	4.61	1.31	4.48	1.40	4.32	1.49
10	5.02	1.38	4.88	1.48	4.75	1.58
15	5.42	1.44	5.29	1.55	5.15	1.65
20	5.71	1.48	5.58	1.61	5.42	1.74

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.11 Capacity Correction Factor Due to Tubing Length

5.11.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.984	0.946	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

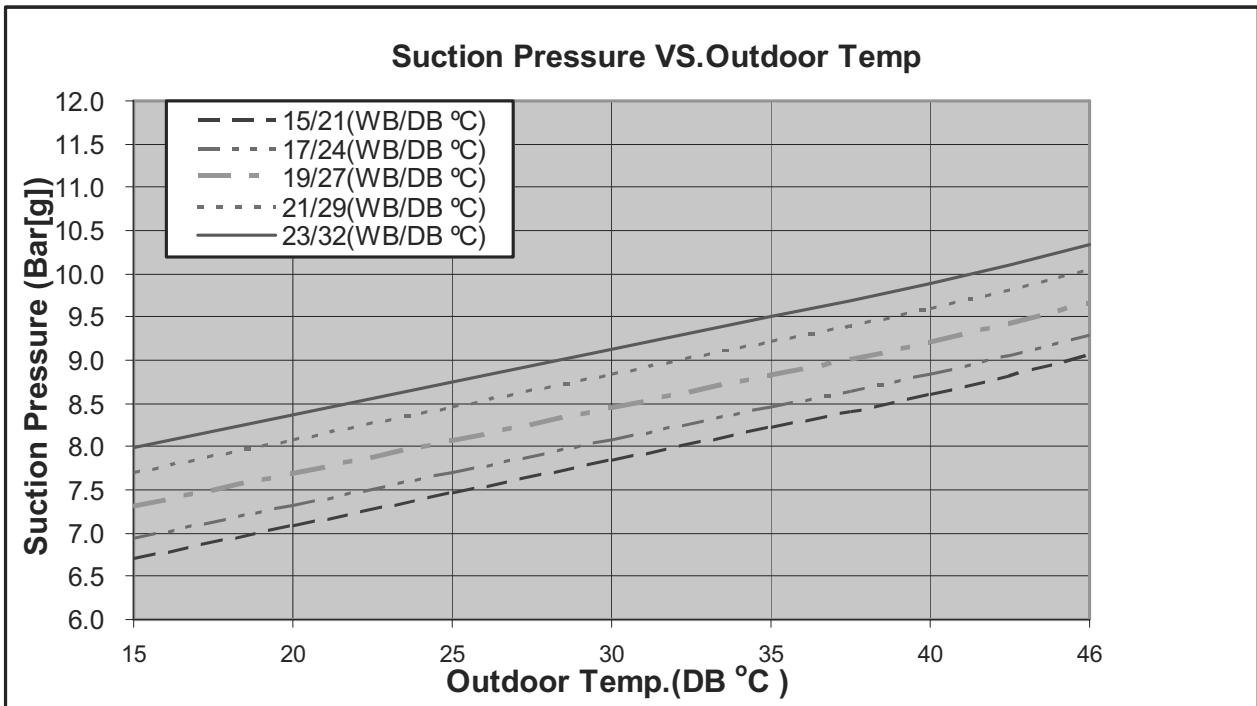
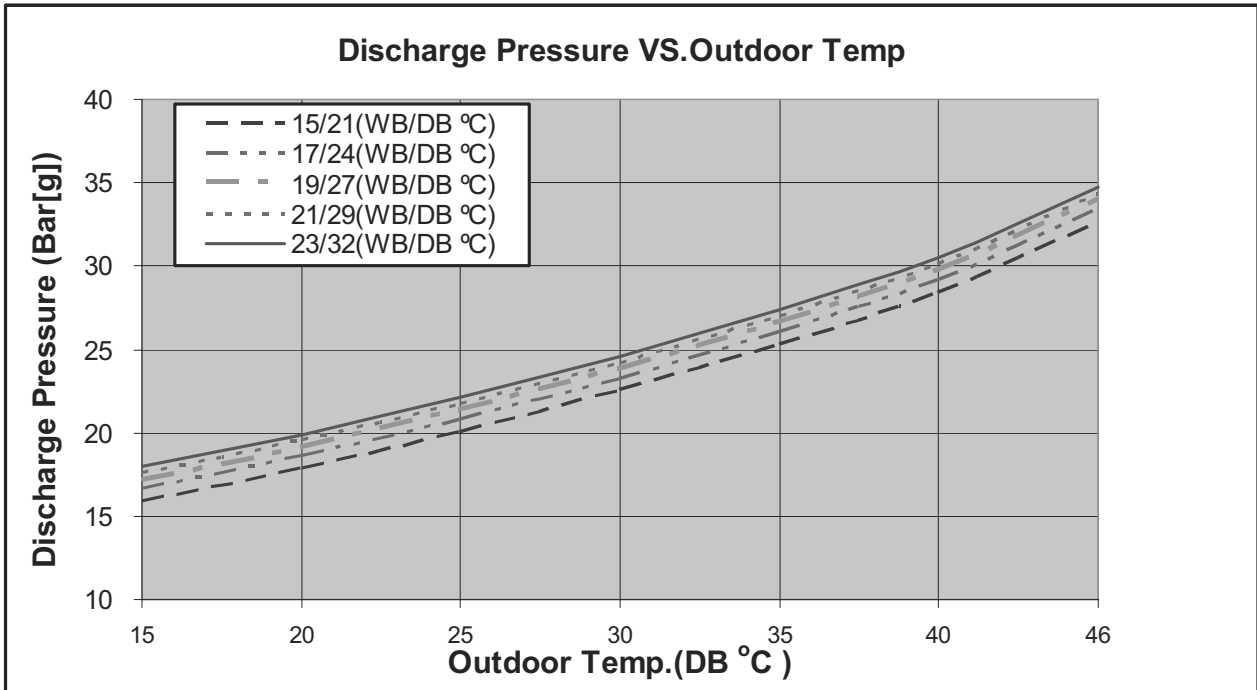
5.11.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.995	0.971	---	---	---	---	---

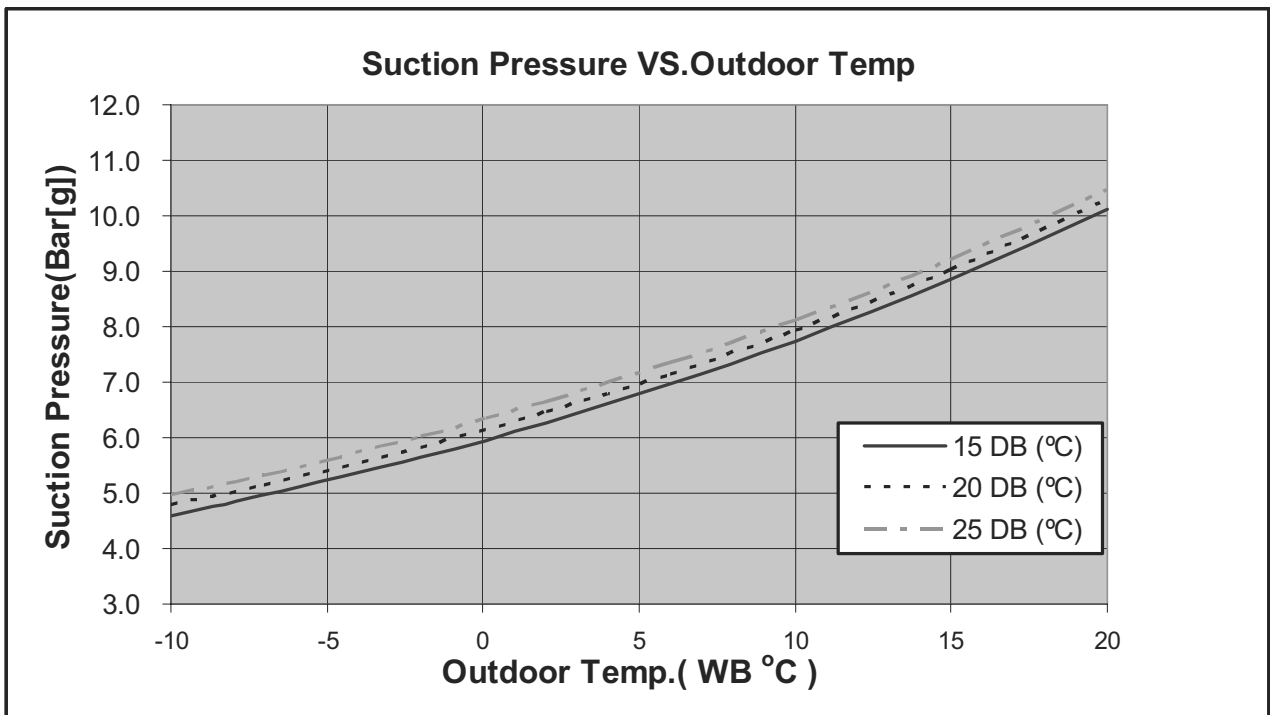
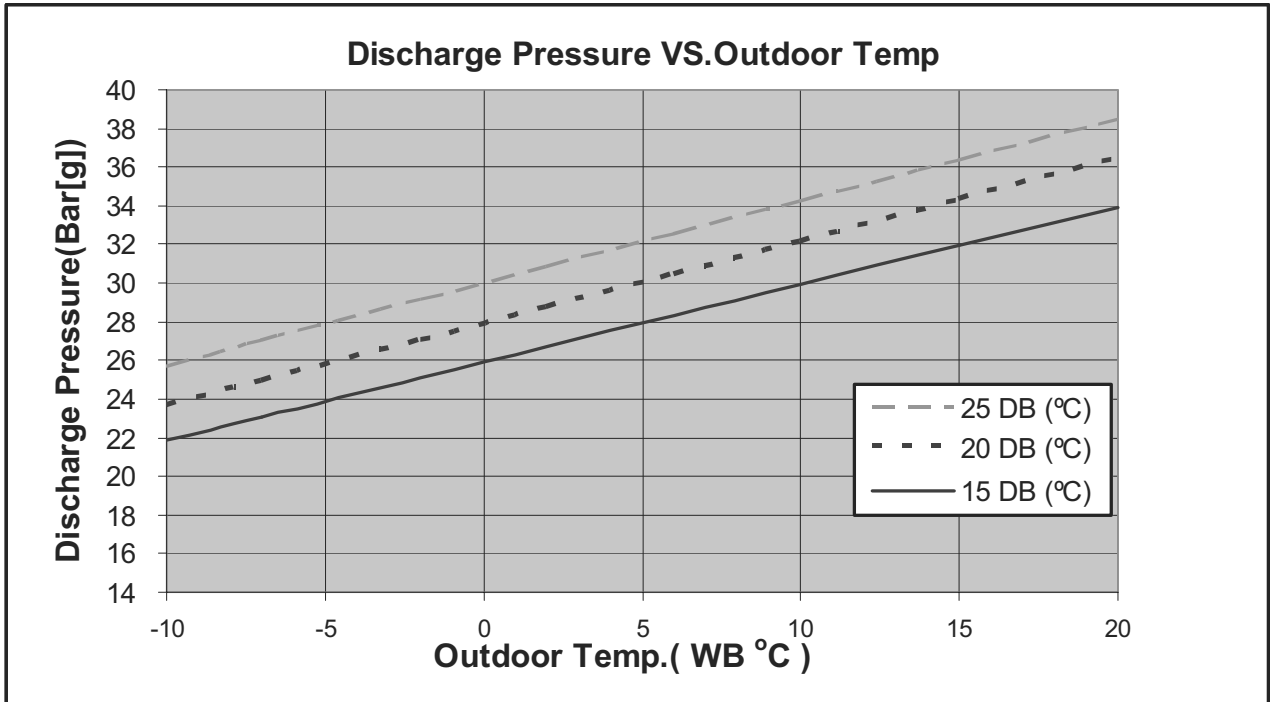
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.12 Pressure Curves.

5.12.1 Cooling.



5.12.2 Heating.



5.13 WNG18 GC18 R410A

5.13.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	5.64	5.84	5.98	6.12	6.21
	SC	3.87	4.03	4.19	4.30	4.38
	PI	1.18	1.18	1.18	1.18	1.19
20 ⁽¹⁾	TC	5.46	5.75	5.93	6.07	6.20
	SC	3.79	4.00	4.17	4.28	4.36
	PI	1.28	1.28	1.29	1.29	1.30
25	TC	5.16	5.57	5.86	6.04	6.18
	SC	3.69	3.92	4.13	4.25	4.33
	PI	1.38	1.39	1.40	1.41	1.42
30	TC	4.83	5.26	5.68	5.88	6.05
	SC	3.58	3.80	4.04	4.16	4.24
	PI	1.49	1.51	1.52	1.54	1.55
35	TC	4.47	4.85	5.35	5.62	5.88
	SC	3.40	3.65	3.95	4.06	4.14
	PI	1.61	1.63	1.66	1.67	1.68
40	TC	4.06	4.42	4.83	5.28	5.55
	SC	3.21	3.45	3.74	3.86	3.93
	PI	1.73	1.76	1.79	1.81	1.83
46	TC	3.53	3.86	4.24	4.68	5.05
	SC	2.95	3.16	3.41	3.53	3.60
	PI	1.89	1.92	1.97	1.99	2.02

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.13.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.84	1.25	2.73	1.33	2.62	1.40
-7	3.05	1.28	2.94	1.35	2.84	1.42
-2	3.24	1.29	3.13	1.37	3.02	1.45
2	3.94	1.36	3.78	1.44	3.62	1.53
6	5.56	1.46	5.40	1.56	5.21	1.66
10	6.05	1.54	5.89	1.65	5.72	1.76
15	6.53	1.61	6.37	1.73	6.21	1.84
20	6.89	1.65	6.72	1.79	6.53	1.93

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.14 Capacity Correction Factor Due to Tubing Length

5.14.1 Cooling

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.99	0.975	0.965	0.950	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

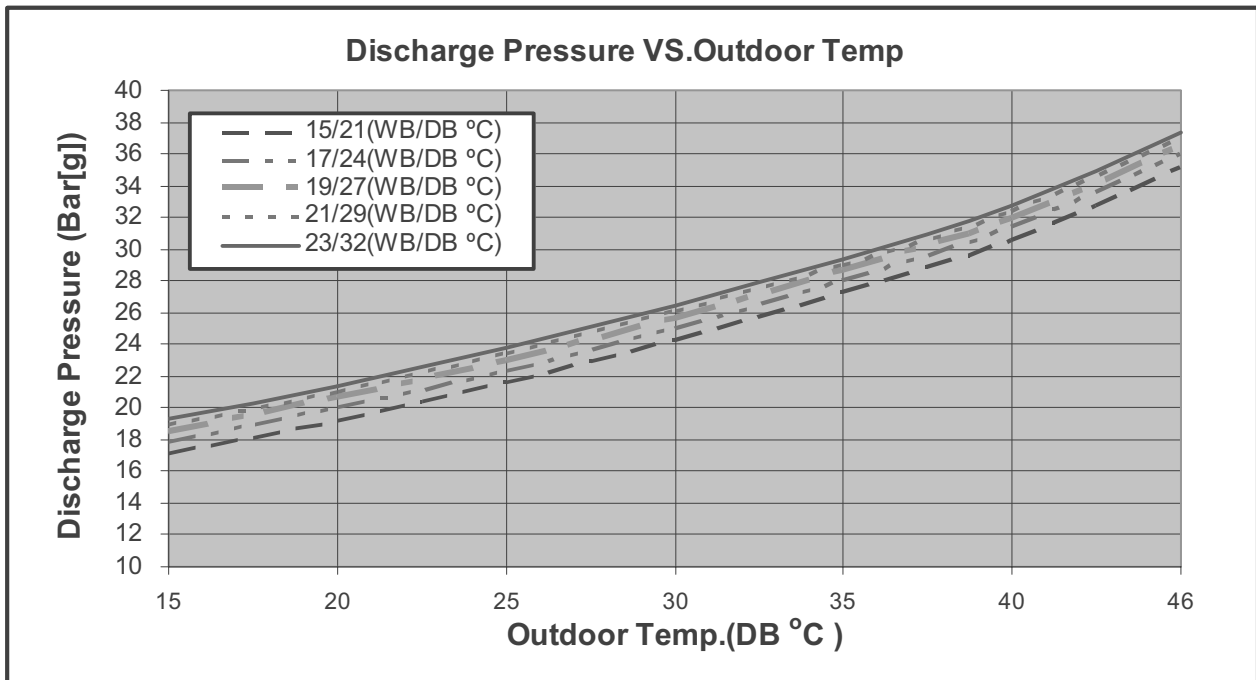
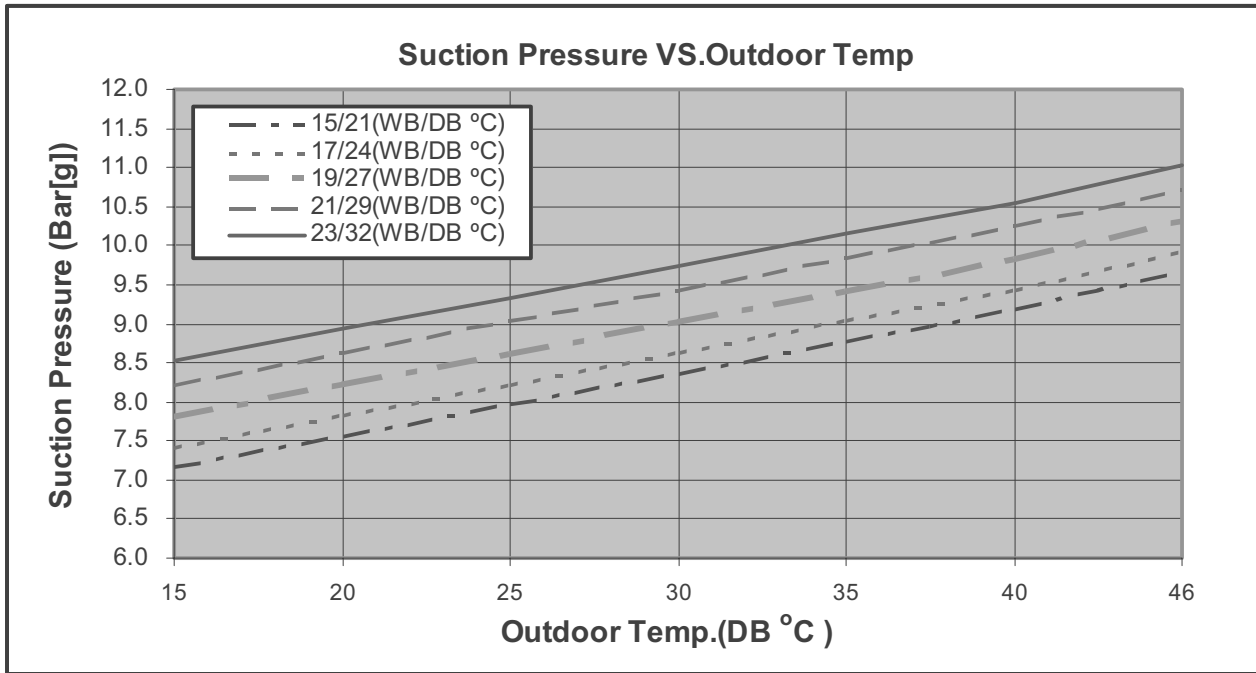
5.14.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	1	0.993	0.988	0.978	---	---	---

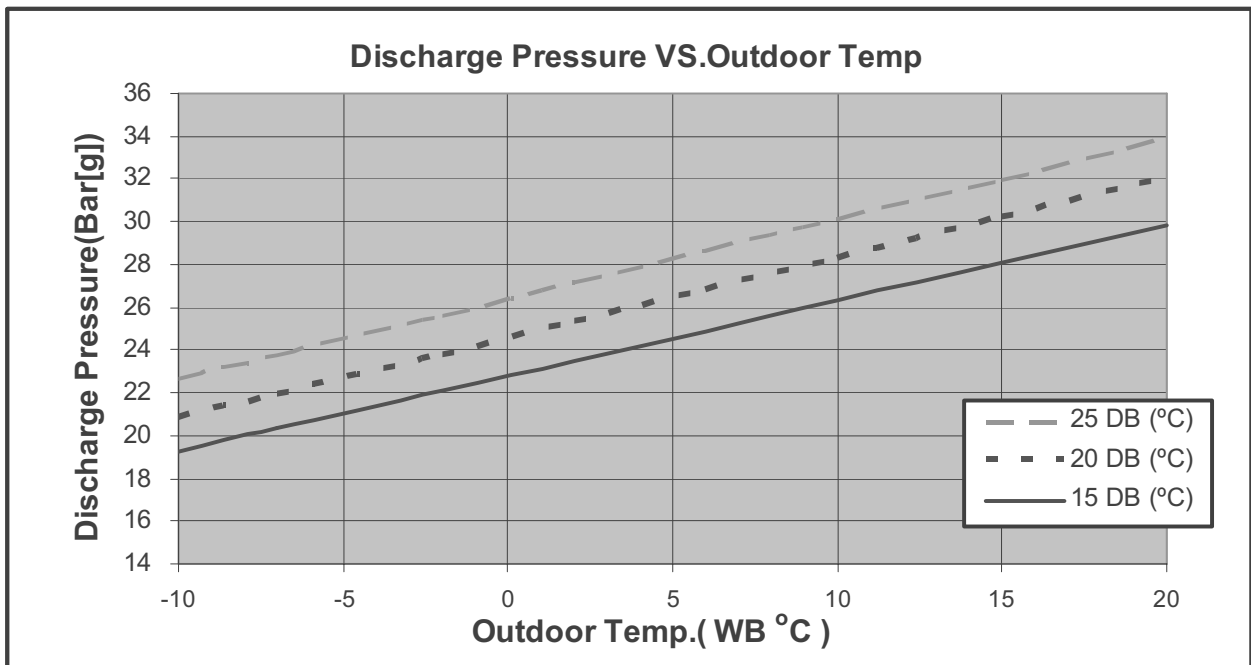
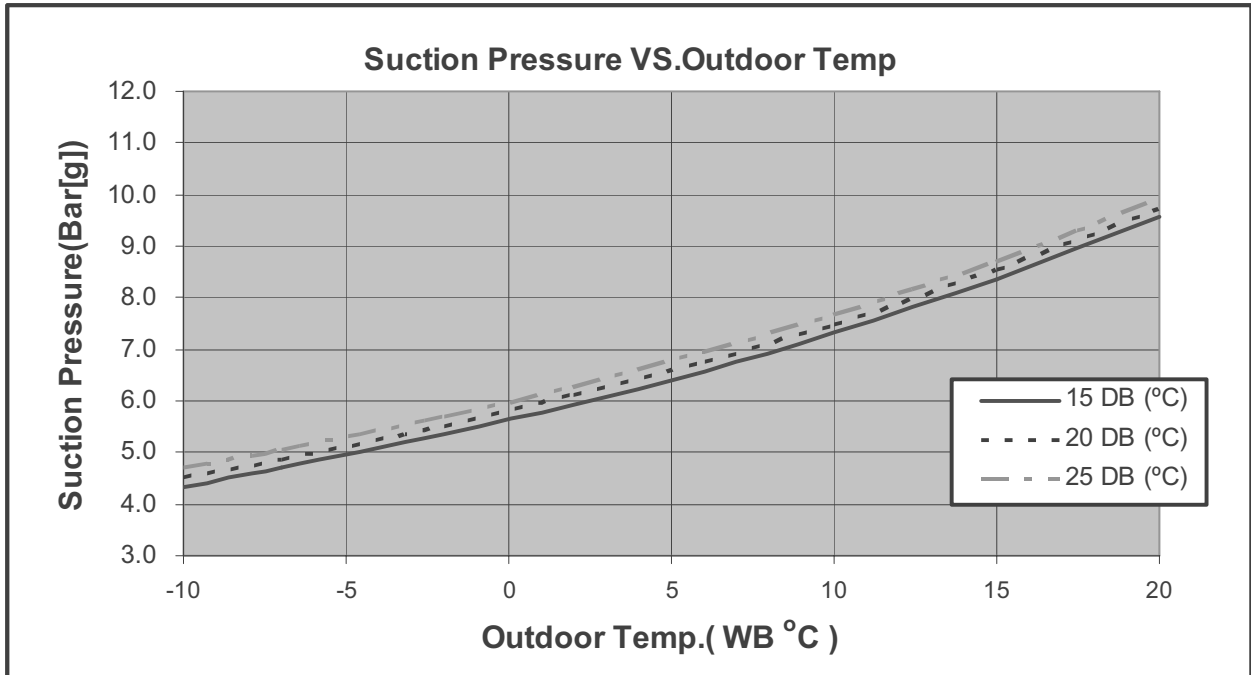
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.15 Pressure Curves.

5.15.1 Cooling.



5.15.2 Heating.



5.16 WNG21 GC21 R410A

5.16.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	6.53	6.77	6.93	7.09	7.20
	SC	4.45	4.64	4.82	4.94	5.03
	PI	1.45	1.46	1.46	1.46	1.47
20 ⁽¹⁾	TC	6.32	6.66	6.87	7.04	7.19
	SC	4.36	4.59	4.79	4.92	5.01
	PI	1.58	1.58	1.59	1.60	1.60
25	TC	5.98	6.46	6.79	7.00	7.17
	SC	4.25	4.51	4.75	4.89	4.98
	PI	1.71	1.72	1.73	1.74	1.75
30	TC	5.59	6.09	6.58	6.81	7.02
	SC	4.11	4.37	4.65	4.78	4.87
	PI	1.84	1.87	1.88	1.90	1.91
35	TC	5.18	5.62	6.20	6.51	6.82
	SC	3.91	4.19	4.54	4.67	4.76
	PI	1.98	2.02	2.05	2.07	2.08
40	TC	4.71	5.13	5.59	6.12	6.43
	SC	3.69	3.97	4.29	4.43	4.52
	PI	2.14	2.17	2.21	2.24	2.26
46	TC	4.09	4.47	4.91	5.43	5.85
	SC	3.40	3.64	3.92	4.05	4.14
	PI	2.34	2.37	2.43	2.46	2.49

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.16.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	3.41	1.60	3.28	1.70	3.15	1.79
-7	3.67	1.64	3.54	1.73	3.41	1.82
-2	3.90	1.66	3.77	1.76	3.64	1.86
2	4.75	1.74	4.55	1.85	4.36	1.96
6	6.70	1.87	6.50	2.00	6.27	2.12
10	7.28	1.97	7.09	2.11	6.89	2.26
15	7.87	2.06	7.67	2.22	7.48	2.36
20	8.29	2.12	8.09	2.30	7.87	2.48

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.17 Capacity Correction Factor Due to Tubing Length

5.17.1 Cooling

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.950	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

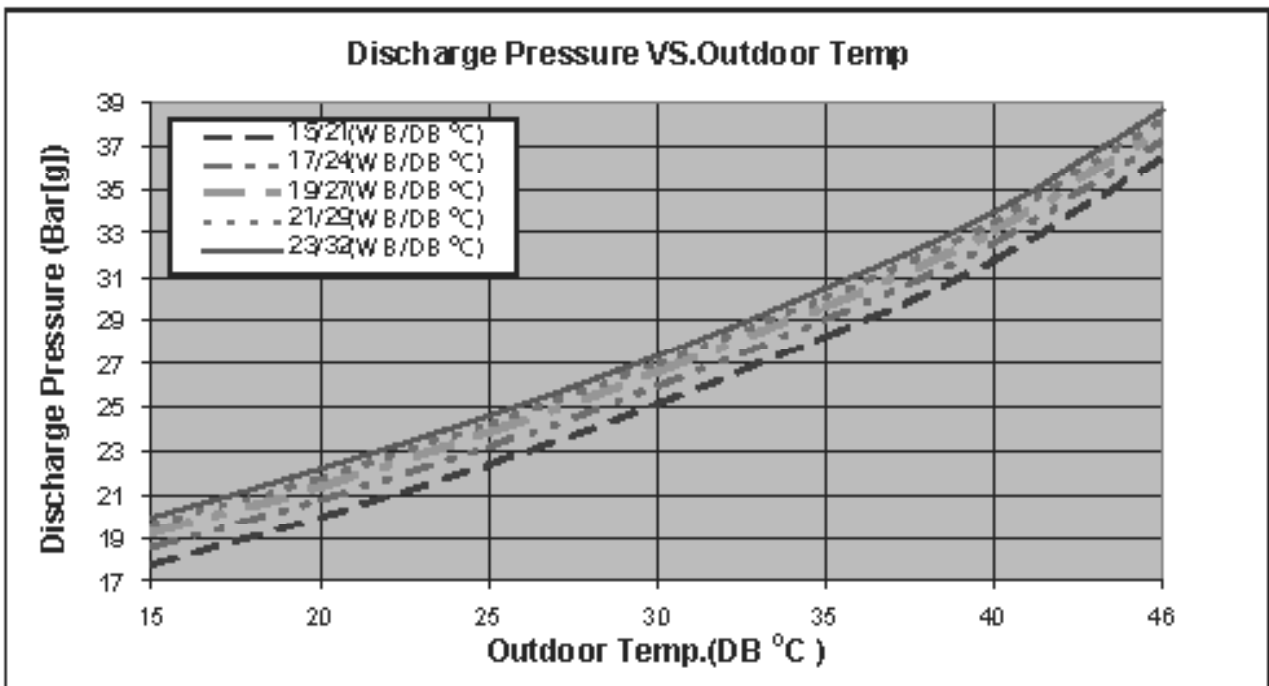
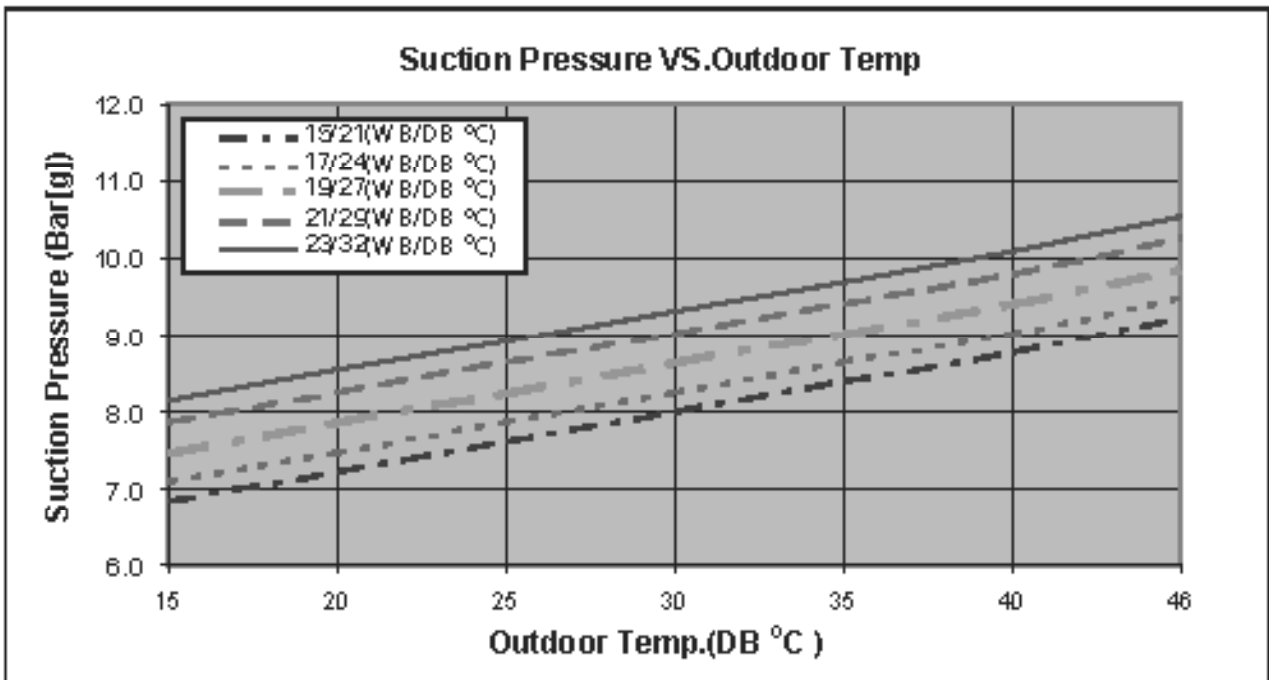
5.17.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.975	0.961	---	---	---	---	---

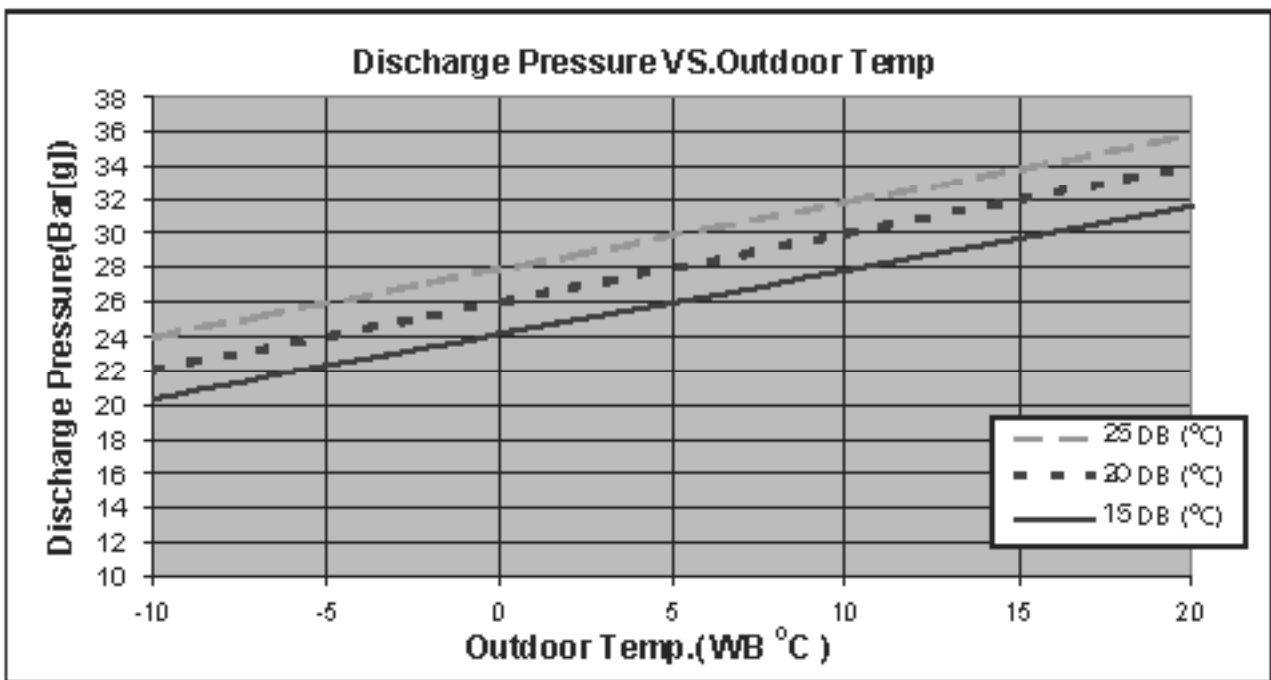
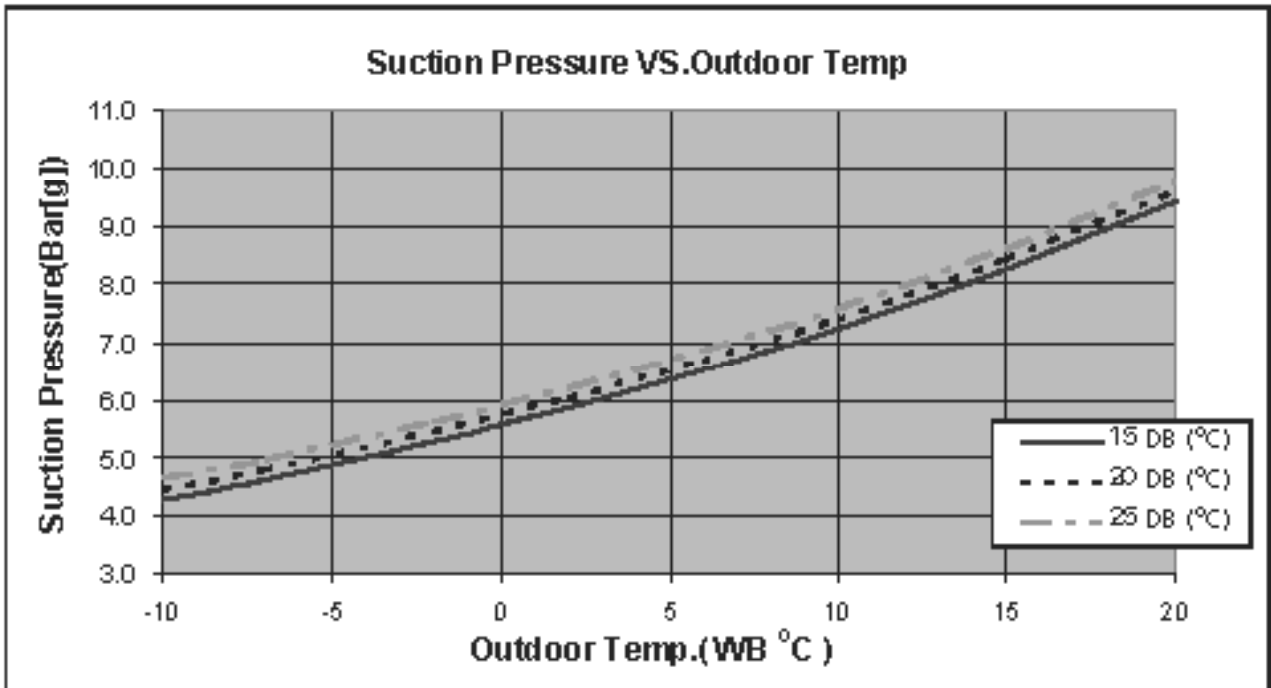
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.18 Pressure Curves.

5.18.1 Cooling.



5.18.2 Heating.



5.19 WNG24 / OU7- 24, WNG24 / OU7-24Z 1PH/3PH R410A

5.19.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	7.14	7.39	7.57	7.74	7.86
	SC	4.80	5.00	5.20	5.33	5.43
	PI	1.59	1.59	1.59	1.60	1.61
20 ⁽¹⁾	TC	6.90	7.28	7.51	7.68	7.85
	SC	4.70	4.96	5.17	5.31	5.41
	PI	1.72	1.73	1.74	1.75	1.75
25	TC	6.53	7.05	7.42	7.64	7.83
	SC	4.58	4.86	5.13	5.28	5.37
	PI	1.86	1.88	1.89	1.90	1.91
30	TC	6.11	6.65	7.19	7.44	7.66
	SC	4.44	4.72	5.02	5.16	5.26
	PI	2.01	2.04	2.06	2.07	2.09
35	TC	5.66	6.14	6.77	7.11	7.45
	SC	4.22	4.52	4.90	5.04	5.14
	PI	2.17	2.20	2.24	2.26	2.27
40	TC	5.14	5.60	6.11	6.68	7.02
	SC	3.98	4.28	4.64	4.78	4.88
	PI	2.34	2.37	2.41	2.44	2.47
46	TC	4.46	4.88	5.37	5.93	6.39
	SC	3.66	3.93	4.23	4.37	4.47
	PI	2.55	2.59	2.65	2.69	2.72

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.19.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	3.72	1.88	3.58	2.00	3.43	2.10
-7	4.00	1.93	3.86	2.03	3.72	2.14
-2	4.25	1.95	4.11	2.07	3.96	2.19
2	5.17	2.04	4.96	2.17	4.74	2.30
6	7.29	2.20	7.08	2.35	6.83	2.50
10	7.93	2.32	7.72	2.48	7.50	2.65
15	8.57	2.42	8.35	2.61	8.14	2.77
20	9.03	2.49	8.81	2.70	8.57	2.91

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.20 Capacity Correction Factor Due to Tubing Length

5.20.1 Cooling

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.980	0.970	0.960	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

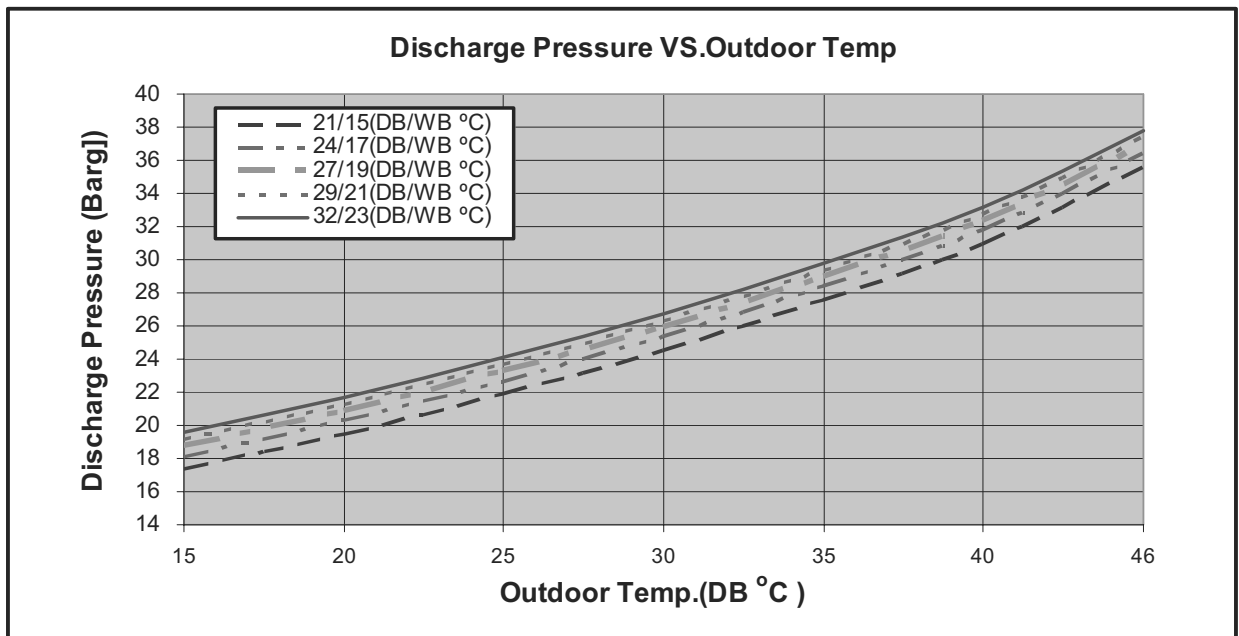
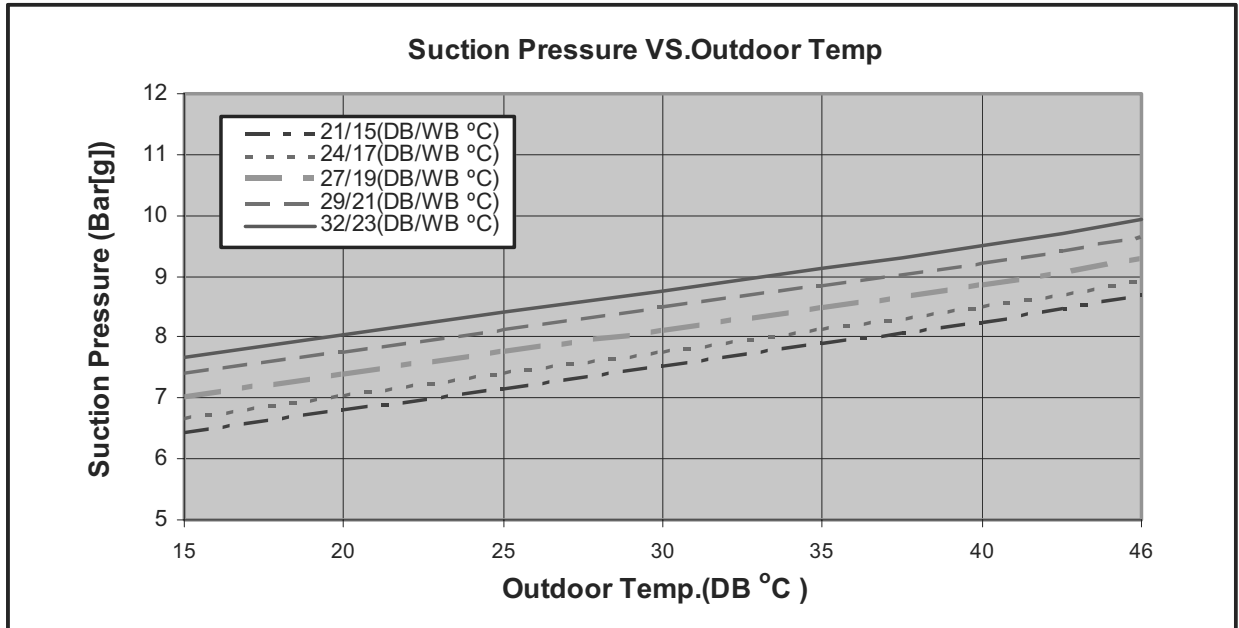
5.20.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.990	0.990	0.980	---	---	---	---

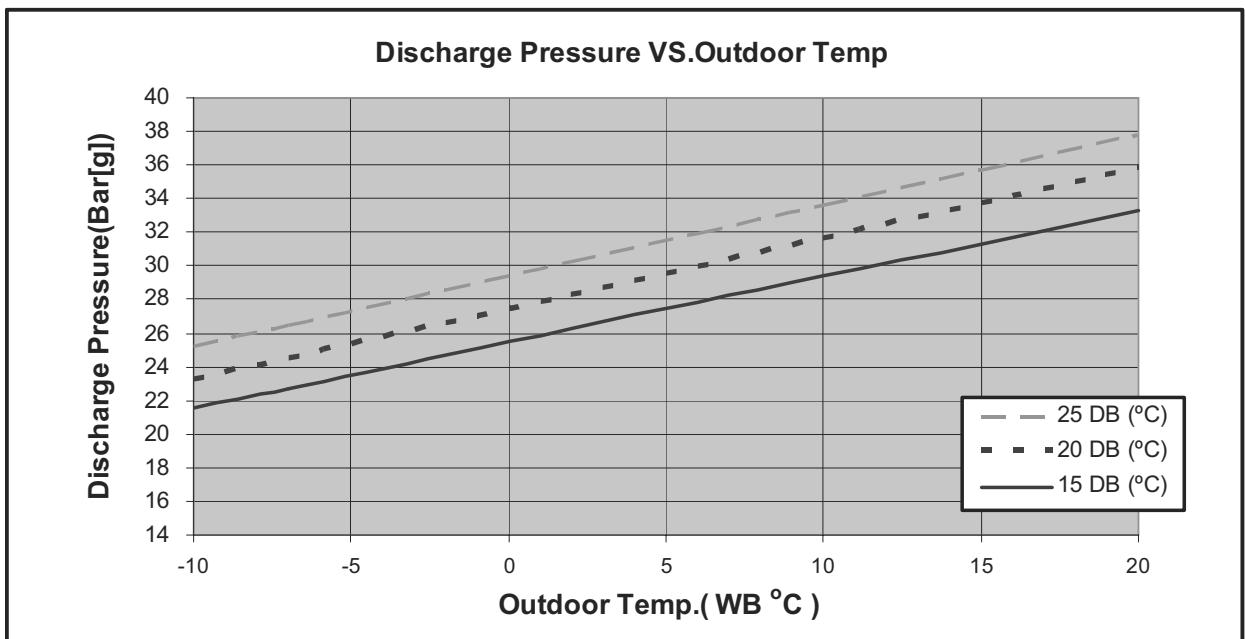
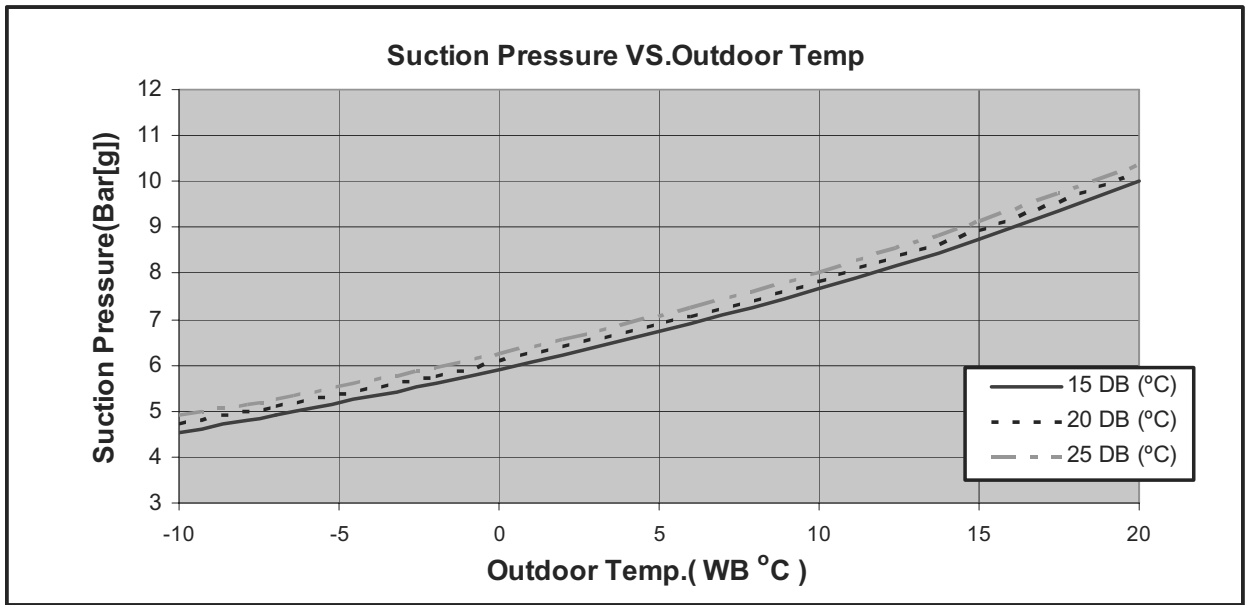
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.21 Pressure Curves.

5.21.1 Cooling.



5.21.2 Heating.



5.22 WNG25 GC24 R410A

5.22.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	7.09	7.35	7.52	7.70	7.82
	SC	4.82	5.02	5.22	5.35	5.45
	PI	1.66	1.66	1.67	1.67	1.68
20 ⁽¹⁾	TC	6.86	7.23	7.46	7.64	7.80
	SC	4.72	4.98	5.19	5.34	5.43
	PI	1.80	1.81	1.81	1.82	1.83
25	TC	6.49	7.01	7.37	7.59	7.78
	SC	4.60	4.88	5.15	5.30	5.40
	PI	1.95	1.96	1.97	1.99	2.00
30	TC	6.07	6.61	7.14	7.40	7.62
	SC	4.46	4.74	5.04	5.18	5.28
	PI	2.10	2.13	2.15	2.17	2.19
35	TC	5.62	6.10	6.73	7.07	7.40
	SC	4.24	4.54	4.92	5.06	5.16
	PI	2.26	2.30	2.34	2.36	2.37
40	TC	5.11	5.57	6.07	6.64	6.98
	SC	3.99	4.30	4.65	4.80	4.90
	PI	2.44	2.48	2.52	2.55	2.58
46	TC	4.44	4.85	5.33	5.89	6.35
	SC	3.68	3.94	4.24	4.39	4.49
	PI	2.67	2.71	2.77	2.81	2.84

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.22.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	3.78	1.86	3.64	1.99	3.49	2.09
-7	4.07	1.91	3.92	2.02	3.78	2.12
-2	4.32	1.93	4.18	2.05	4.03	2.17
2	5.26	2.03	5.04	2.16	4.82	2.28
6	7.42	2.18	7.20	2.33	6.95	2.47
10	8.06	2.30	7.85	2.46	7.63	2.63
15	8.71	2.40	8.50	2.59	8.28	2.75
20	9.18	2.47	8.96	2.68	8.71	2.89

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.23 Capacity Correction Factor Due to Tubing Length

5.23.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.988	0.975			---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

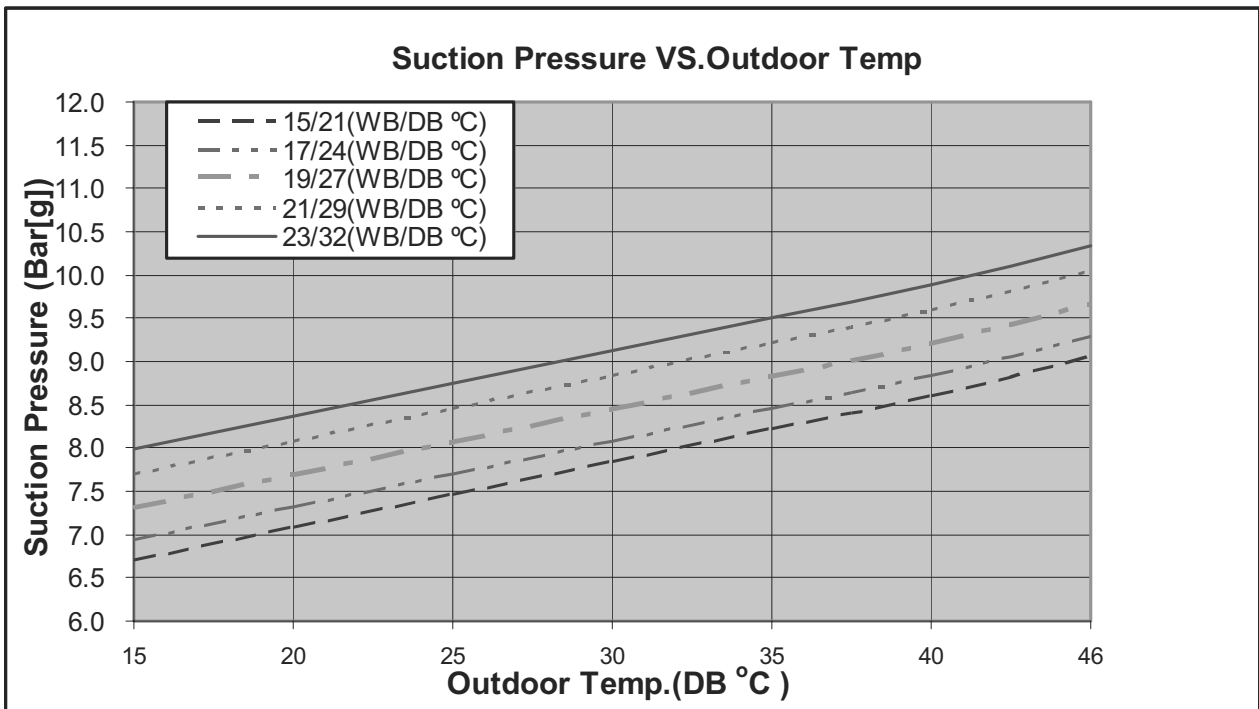
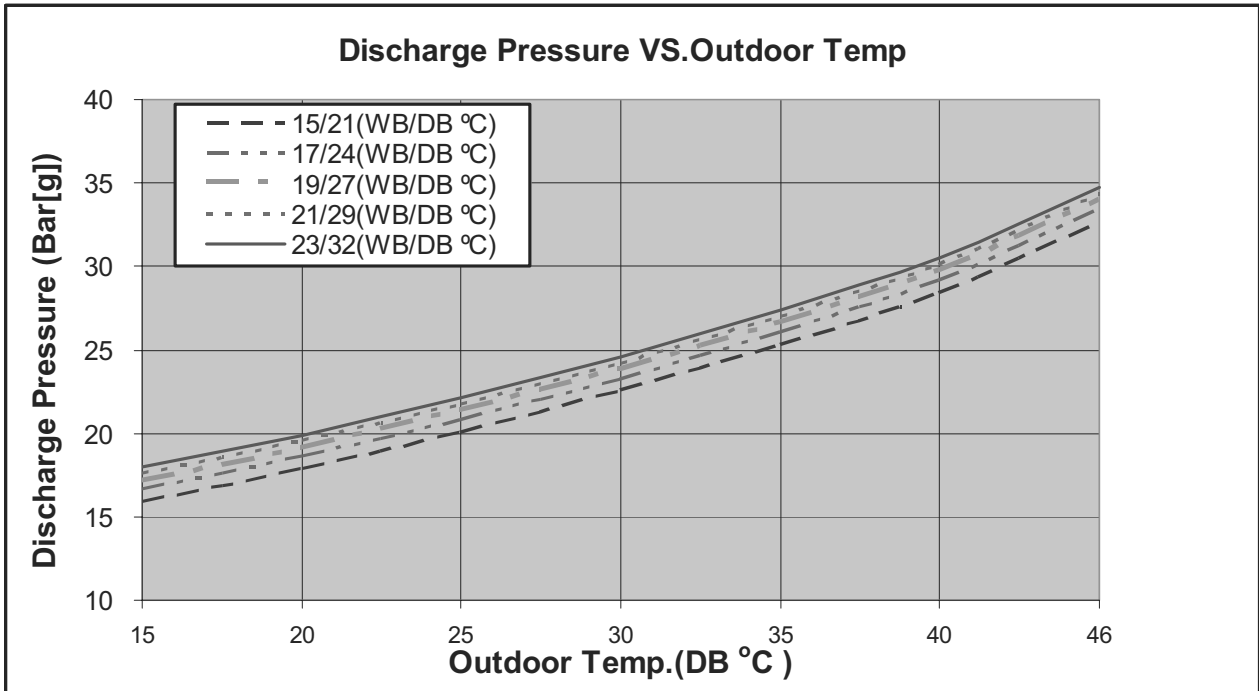
5.23.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.974	0.965			---	---	---

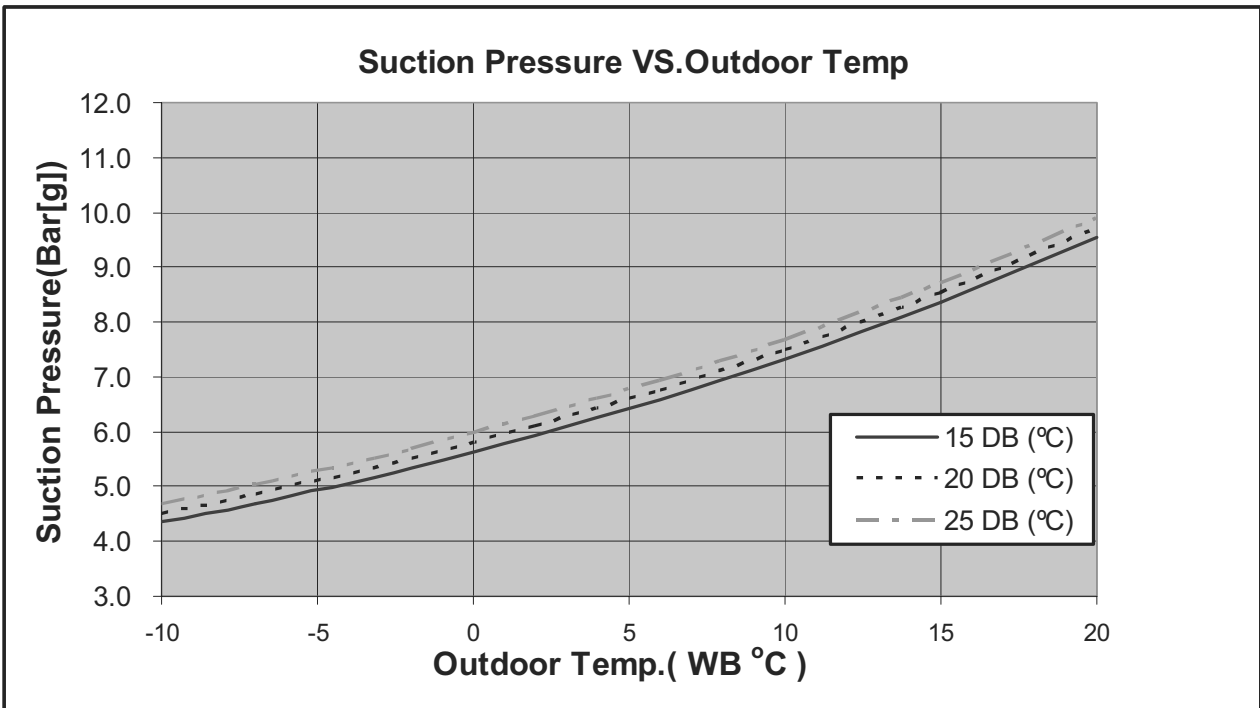
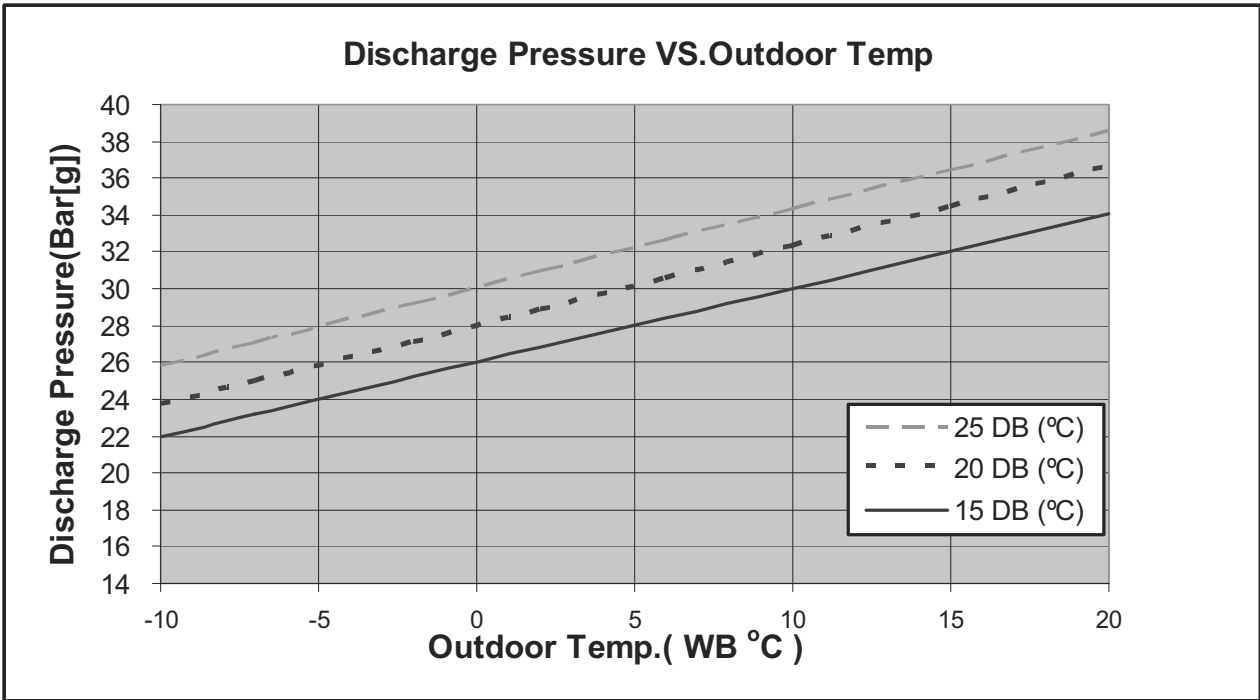
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.24 Pressure Curves.

5.24.1 Cooling.



5.24.2 Heating.



5.25 WNG30 OU830 R410A

5.25.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	8.96	9.28	9.50	9.72	9.87
	SC	5.83	6.08	6.31	6.47	6.59
	PI	2.07	2.07	2.08	2.08	2.09
20 ⁽¹⁾	TC	8.67	9.14	9.42	9.65	9.86
	SC	5.71	6.02	6.27	6.45	6.57
	PI	2.25	2.26	2.26	2.28	2.28
25	TC	8.20	8.85	9.31	9.59	9.83
	SC	5.57	5.90	6.23	6.41	6.52
	PI	2.43	2.45	2.46	2.48	2.50
30	TC	7.67	8.35	9.02	9.34	9.62
	SC	5.39	5.73	6.09	6.27	6.39
	PI	2.62	2.66	2.68	2.70	2.73
35	TC	7.10	7.71	8.50	8.93	9.35
	SC	5.12	5.49	5.95	6.12	6.24
	PI	2.83	2.87	2.92	2.94	2.96
40	TC	6.46	7.03	7.67	8.39	8.82
	SC	4.83	5.20	5.63	5.81	5.93
	PI	3.05	3.10	3.15	3.19	3.22
46	TC	5.60	6.13	6.74	7.44	8.02
	SC	4.45	4.77	5.13	5.31	5.43
	PI	3.33	3.38	3.46	3.51	3.55

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.25.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.77	2.38	4.59	2.54	4.40	2.67
-7	5.13	2.44	4.95	2.58	4.77	2.72
-2	5.45	2.47	5.27	2.62	5.08	2.77
2	6.63	2.59	6.36	2.76	6.08	2.92
6	9.35	2.79	9.08	2.98	8.76	3.16
10	10.17	2.94	9.90	3.14	9.62	3.36
15	10.99	3.07	10.71	3.31	10.44	3.52
20	11.58	3.16	11.30	3.43	10.99	3.70

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.26 Capacity Correction Factor Due to Tubing Length

5.26.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.12	1	0.979	0.943	0.940	0.931	0.913	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

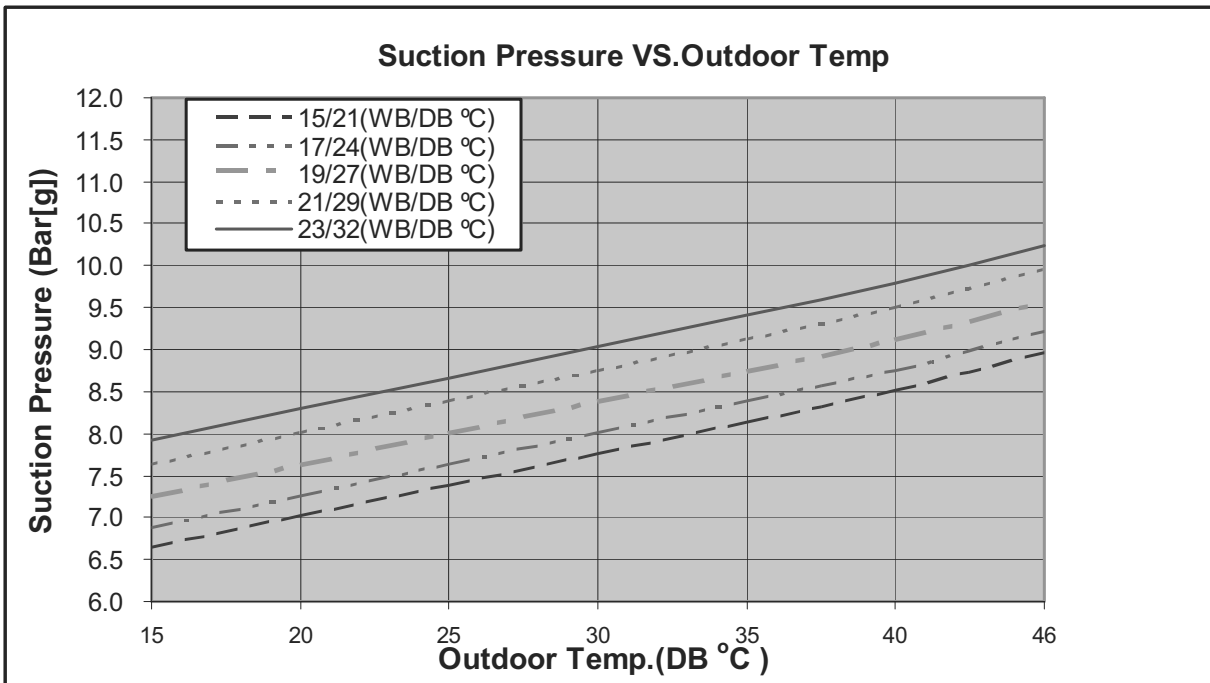
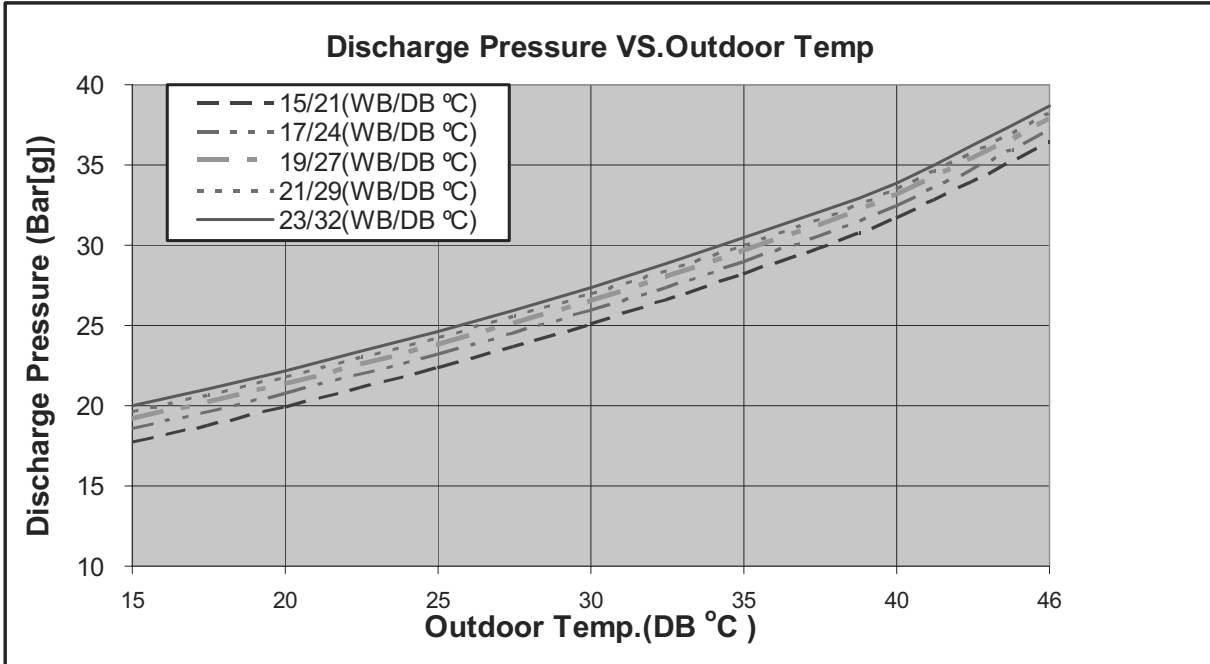
5.26.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.987	0.969	0.952	0.935	0.927	---	---

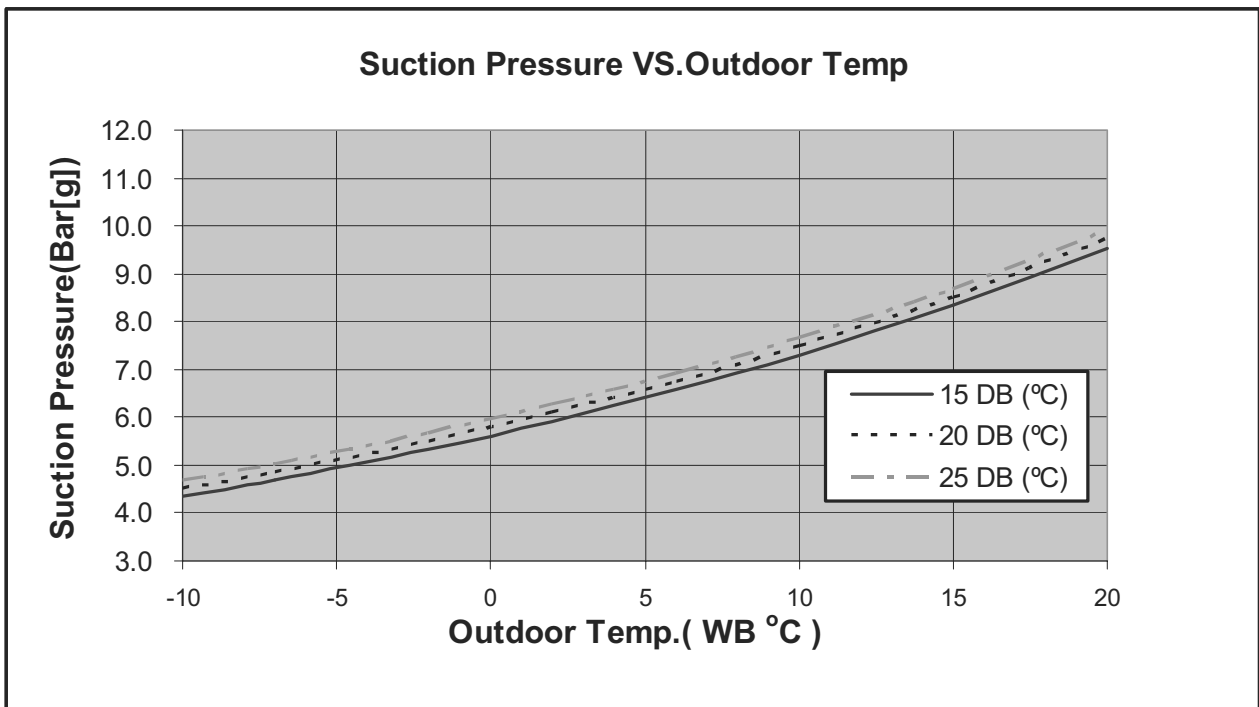
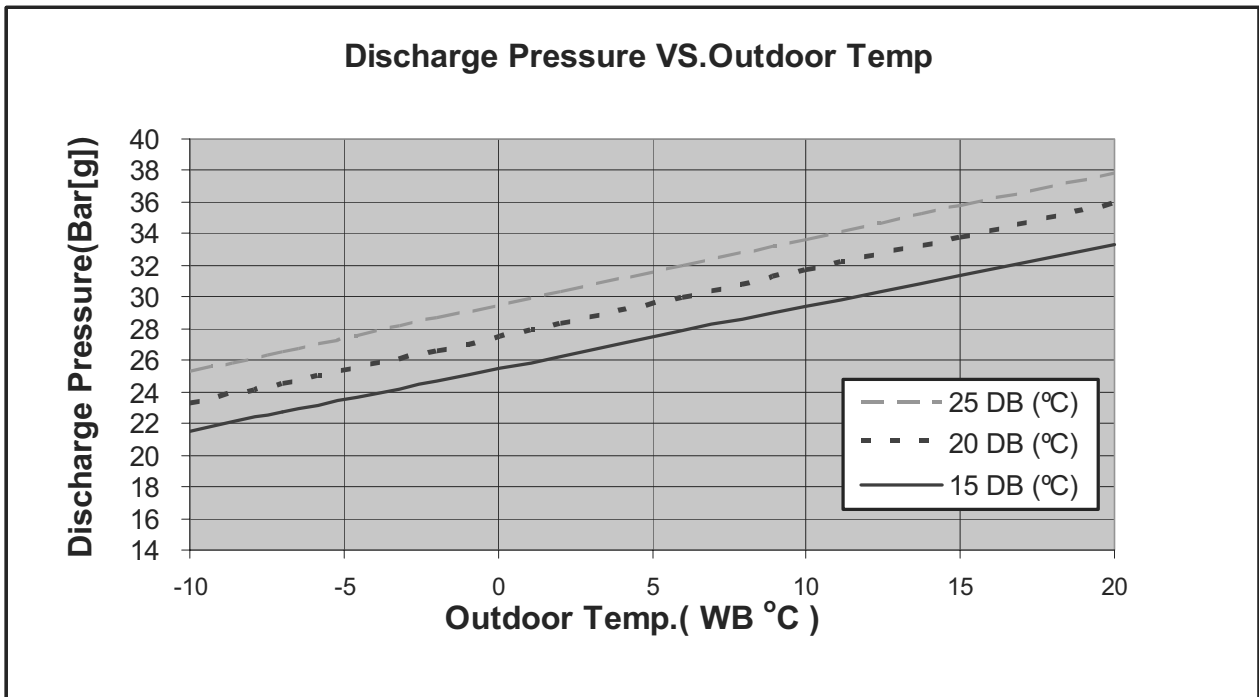
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.27 Pressure Curves.

5.27.1 Cooling.



5.27.2 Heating.



5.28 WNG30 OU830T R410A

5.28.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	8.96	9.28	9.50	9.72	9.87
	SC	5.99	6.25	6.49	6.66	6.78
	PI	2.01	2.01	2.01	2.02	2.03
20 ⁽¹⁾	TC	8.67	9.14	9.42	9.65	9.86
	SC	5.87	6.19	6.45	6.64	6.76
	PI	2.18	2.19	2.19	2.20	2.21
25	TC	8.20	8.85	9.31	9.59	9.83
	SC	5.72	6.07	6.41	6.59	6.71
	PI	2.35	2.37	2.39	2.40	2.42
30	TC	7.67	8.35	9.02	9.34	9.62
	SC	5.54	5.89	6.26	6.45	6.57
	PI	2.54	2.58	2.60	2.62	2.64
35	TC	7.10	7.71	8.50	8.93	9.35
	SC	5.27	5.65	6.12	6.30	6.42
	PI	2.74	2.78	2.83	2.85	2.87
40	TC	6.46	7.03	7.67	8.39	8.82
	SC	4.97	5.35	5.79	5.97	6.10
	PI	2.95	3.00	3.05	3.09	3.12
46	TC	5.60	6.13	6.74	7.44	8.02
	SC	4.58	4.90	5.28	5.46	5.59
	PI	3.23	3.28	3.35	3.40	3.44

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.28.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.77	2.38	4.59	2.54	4.40	2.67
-7	5.13	2.44	4.95	2.58	4.77	2.72
-2	5.45	2.47	5.27	2.62	5.08	2.77
2	6.63	2.59	6.36	2.76	6.08	2.92
6	9.35	2.79	9.08	2.98	8.76	3.16
10	10.17	2.94	9.90	3.14	9.62	3.36
15	10.99	3.07	10.71	3.31	10.44	3.52
20	11.58	3.16	11.30	3.43	10.99	3.70

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.29 Capacity Correction Factor Due to Tubing Length

5.29.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.12	1	0.979	0.943	0.940	0.931	0.913	---	---

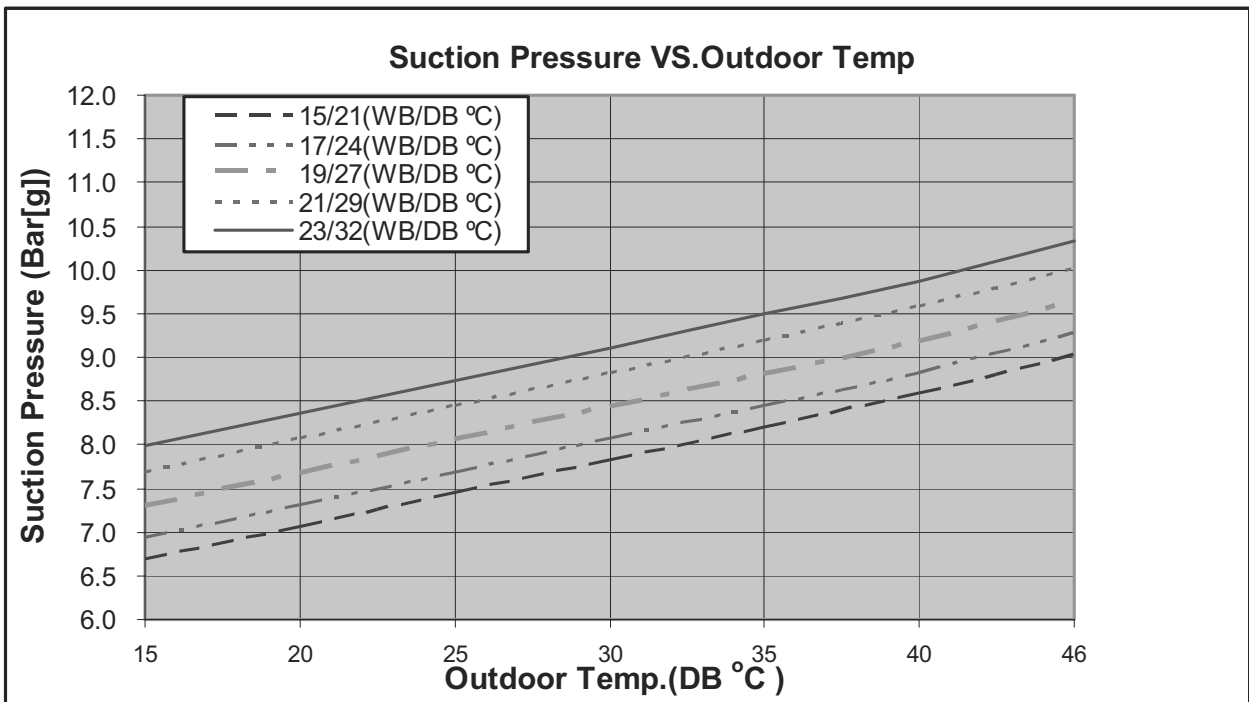
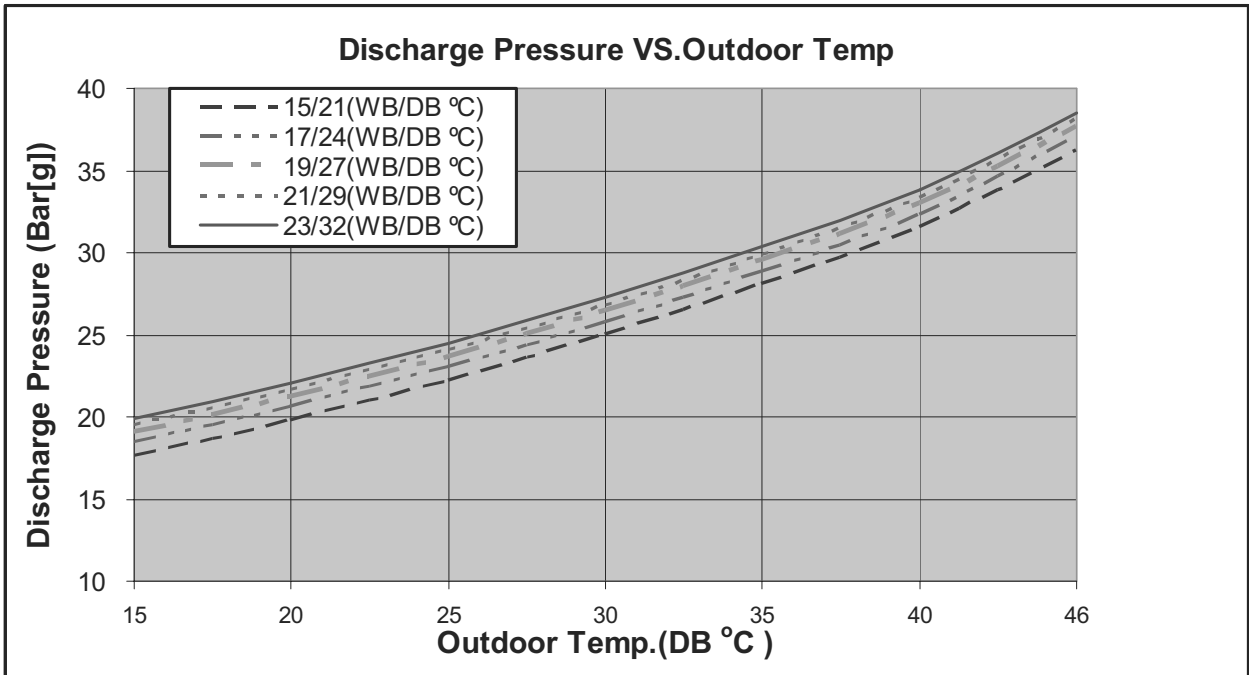
* Minimum recommended tubing length between indoor and outdoor units is 3m.

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.987	0.969	0.952	0.935	0.927	---	---

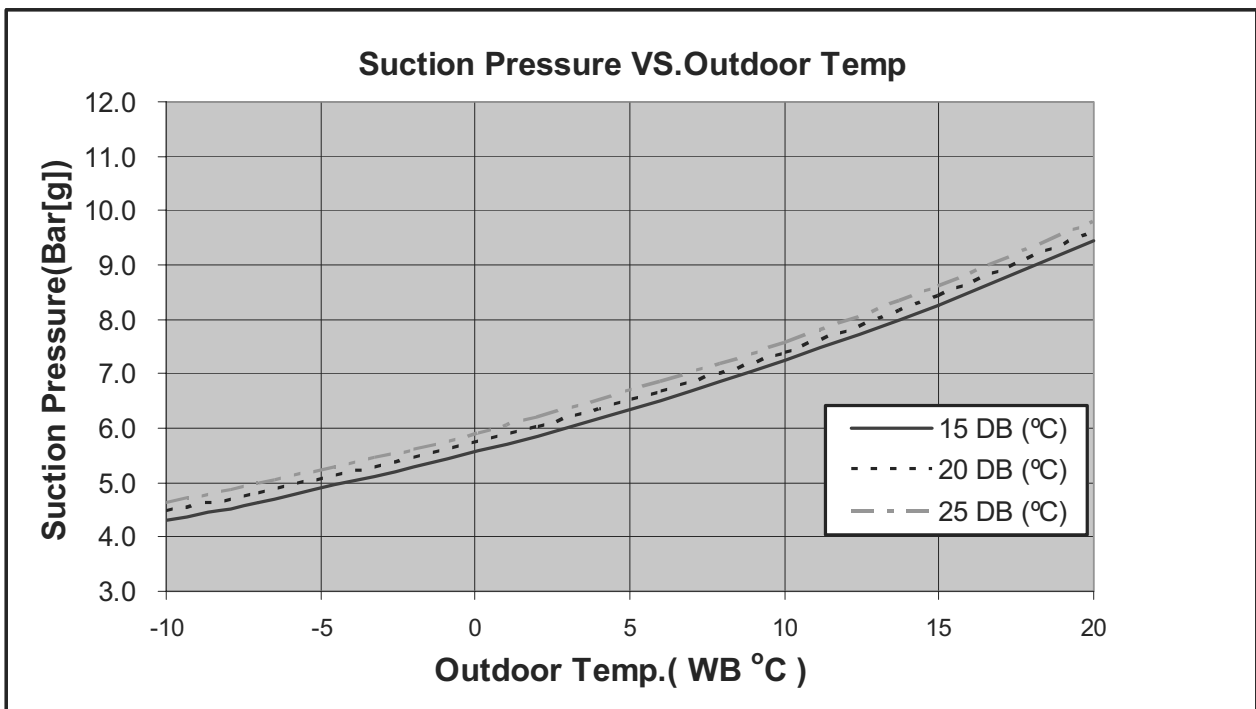
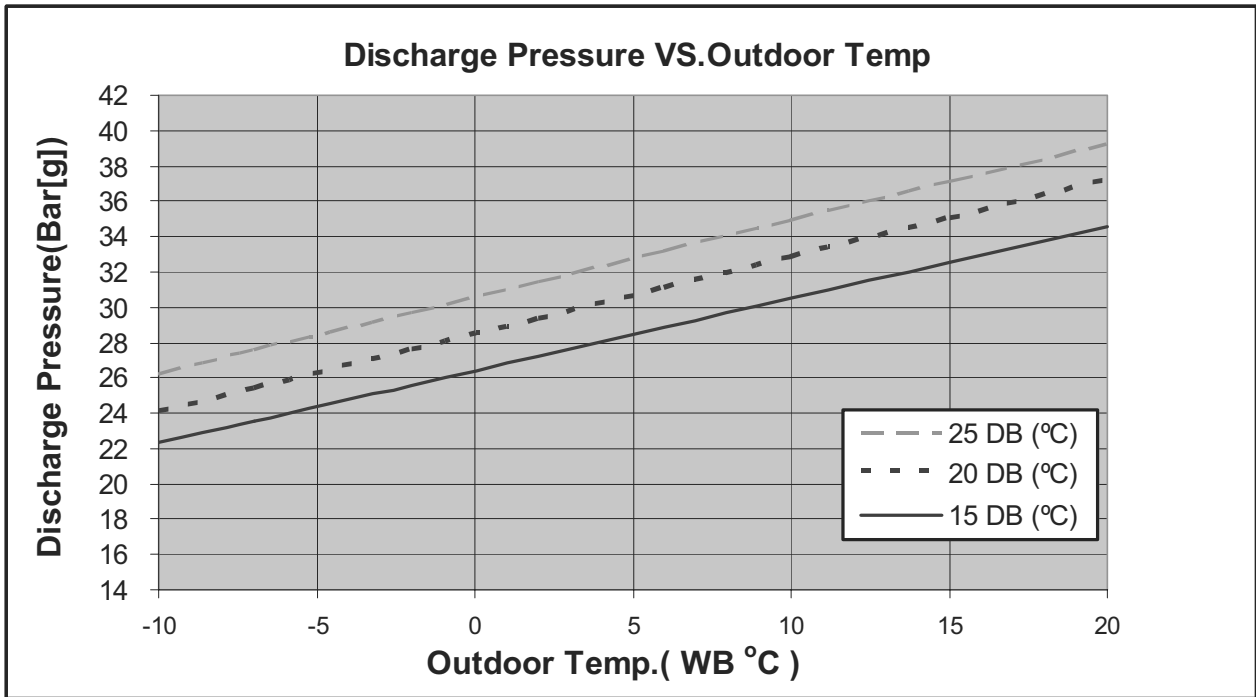
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.30 Pressure Curves.

5.30.1 Cooling.



5.30.2 Heating.



5.31 WNG 36 OU10- 36 R410A

5.31.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	10.70	11.08	11.34	11.61	11.79
	SC	6.28	6.55	6.80	6.97	7.10
	PI	2.28	2.29	2.29	2.30	2.31
20 ⁽¹⁾	TC	10.35	10.91	11.25	11.52	11.77
	SC	6.15	6.49	6.76	6.95	7.08
	PI	2.48	2.49	2.50	2.51	2.51
25	TC	9.79	10.57	11.12	11.45	11.73
	SC	6.00	6.36	6.71	6.90	7.03
	PI	2.68	2.70	2.72	2.73	2.75
30	TC	9.16	9.97	10.77	11.16	11.49
	SC	5.81	6.17	6.56	6.75	6.88
	PI	2.89	2.93	2.96	2.98	3.01
35	TC	8.48	9.20	10.15	10.66	11.16
	SC	5.52	5.92	6.41	6.60	6.72
	PI	3.12	3.17	3.22	3.24	3.26
40	TC	7.71	8.39	9.16	10.02	10.53
	SC	5.20	5.60	6.06	6.26	6.38
	PI	3.36	3.41	3.47	3.51	3.55
46	TC	6.69	7.31	8.04	8.89	9.58
	SC	4.79	5.14	5.53	5.72	5.85
	PI	3.67	3.73	3.81	3.87	3.91

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.31.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	5.99	2.88	5.76	3.07	5.53	3.22
-7	6.44	2.95	6.21	3.11	5.99	3.28
-2	6.84	2.99	6.61	3.17	6.38	3.35
2	8.32	3.13	7.98	3.33	7.64	3.53
6	11.74	3.37	11.40	3.60	11.00	3.82
10	12.77	3.55	12.43	3.80	12.08	4.06
15	13.79	3.71	13.45	4.00	13.11	4.25
20	14.54	3.82	14.19	4.14	13.79	4.46

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.32 Capacity Correction Factor Due to Tubing Length

5.32.1 Cooling

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.99	0.98	0.98	0.97	0.96	0.95	0.92

* Minimum recommended tubing length between indoor and outdoor units is 3m.

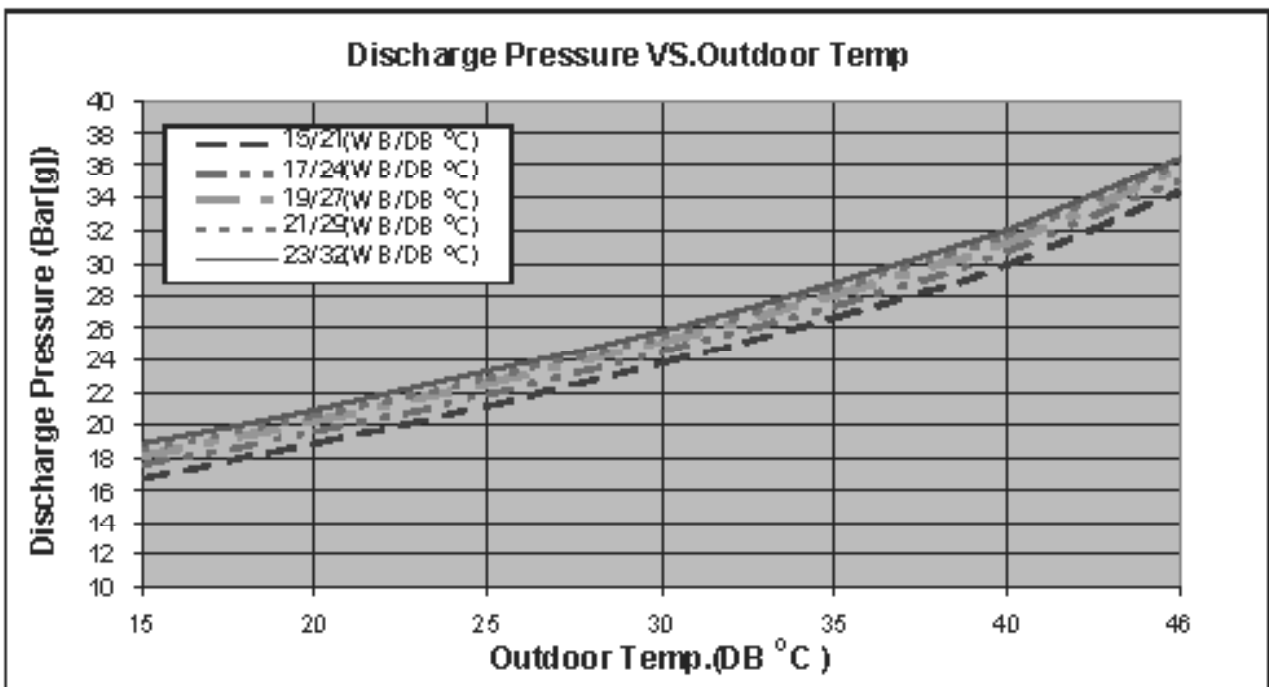
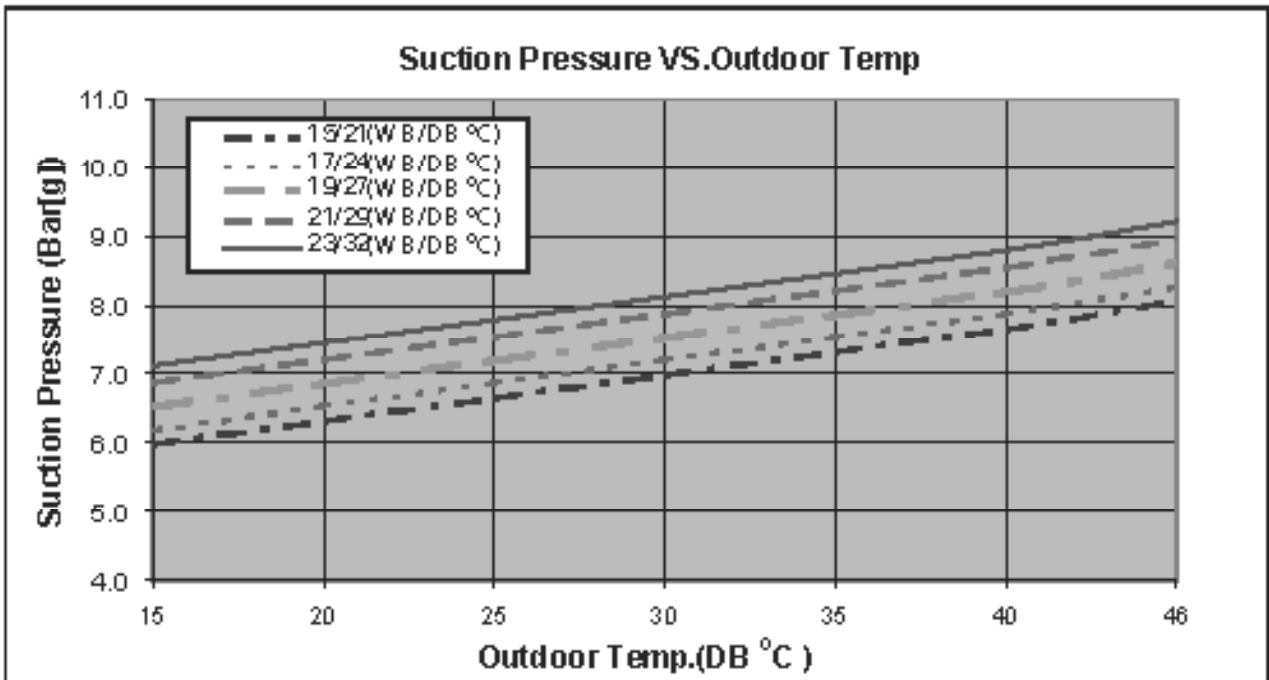
5.32.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.99	0.99	0.98	0.98	0.97	0.96	0.95

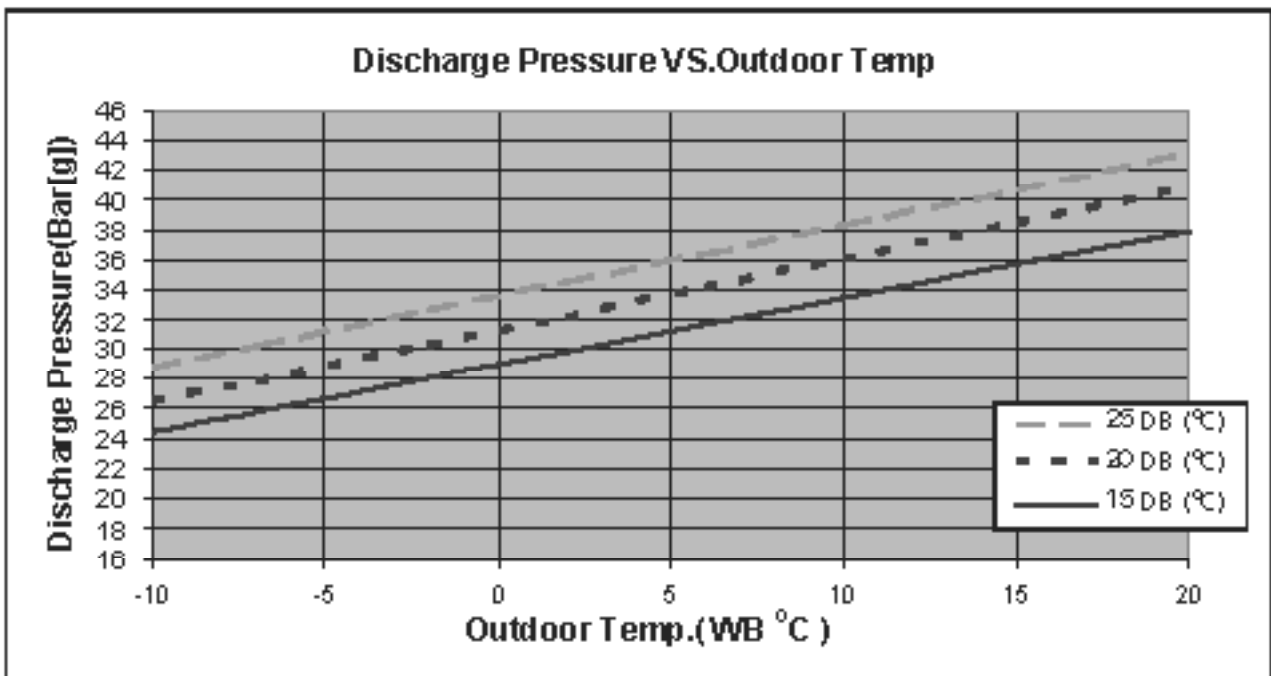
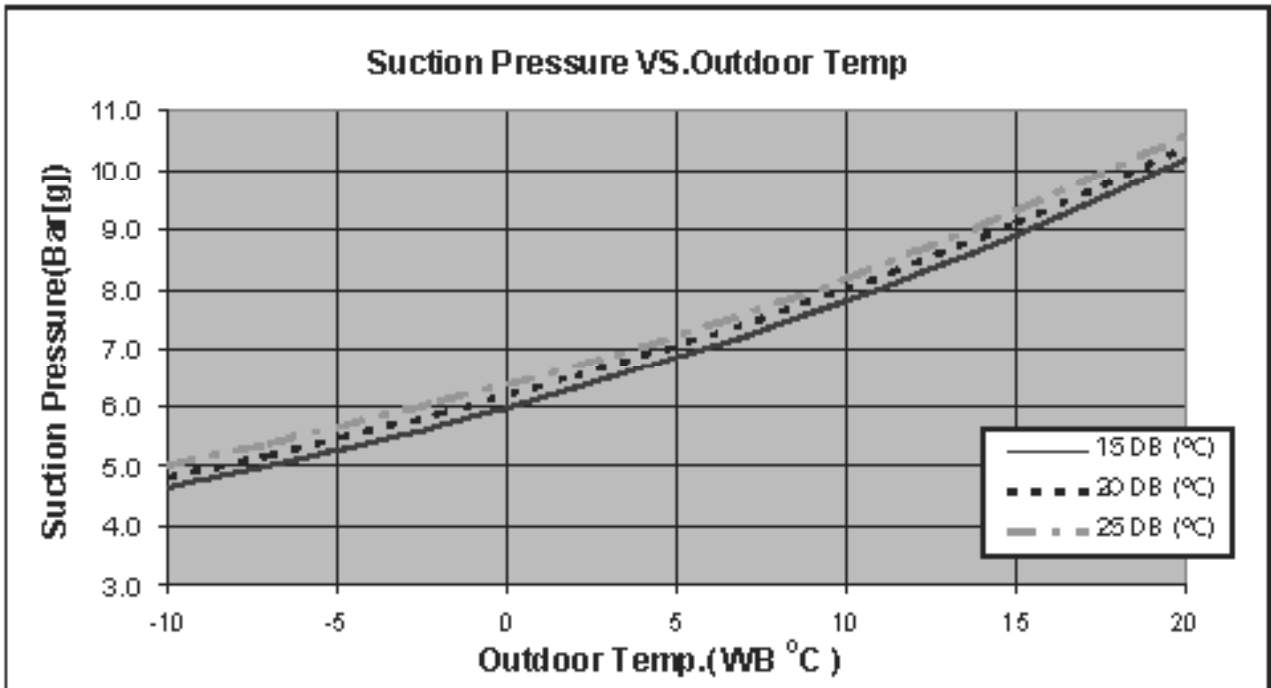
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.33 Pressure Curves.

5.33.1 Cooling.



5.33.2 Heating.



5.34 WNG 36 OU10- 36T R410A

5.34.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	10.96	11.35	11.62	11.90	12.08
	SC	6.43	6.71	6.97	7.15	7.28
	PI	2.17	2.17	2.18	2.18	2.19
20 ⁽¹⁾	TC	10.61	11.18	11.53	11.80	12.06
	SC	6.31	6.65	6.93	7.13	7.26
	PI	2.36	2.36	2.37	2.38	2.39
25	TC	10.03	10.83	11.39	11.74	12.02
	SC	6.14	6.52	6.88	7.07	7.20
	PI	2.55	2.56	2.58	2.60	2.61
30	TC	9.38	10.22	11.04	11.43	11.77
	SC	5.95	6.33	6.73	6.92	7.05
	PI	2.75	2.79	2.81	2.83	2.86
35	TC	8.69	9.43	10.40	10.92	11.44
	SC	5.66	6.07	6.57	6.76	6.89
	PI	2.96	3.01	3.06	3.08	3.10
40	TC	7.90	8.60	9.38	10.26	10.79
	SC	5.33	5.74	6.22	6.41	6.54
	PI	3.19	3.24	3.30	3.34	3.37
46	TC	6.85	7.49	8.24	9.11	9.81
	SC	4.91	5.26	5.67	5.86	6.00
	PI	3.49	3.54	3.62	3.68	3.72

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.34.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	5.88	2.72	5.66	2.90	5.43	3.04
-7	6.33	2.79	6.10	2.94	5.88	3.10
-2	6.72	2.82	6.50	2.99	6.27	3.16
2	8.18	2.96	7.84	3.15	7.50	3.33
6	11.54	3.18	11.20	3.40	10.81	3.61
10	12.54	3.36	12.21	3.59	11.87	3.84
15	13.55	3.50	13.22	3.77	12.88	4.01
20	14.28	3.60	13.94	3.91	13.55	4.22

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.35 Capacity Correction Factor Due to Tubing Length

5.35.1 Cooling

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.99	0.98	0.98	0.97	0.96	0.95	0.92

* Minimum recommended tubing length between indoor and outdoor units is 3m.

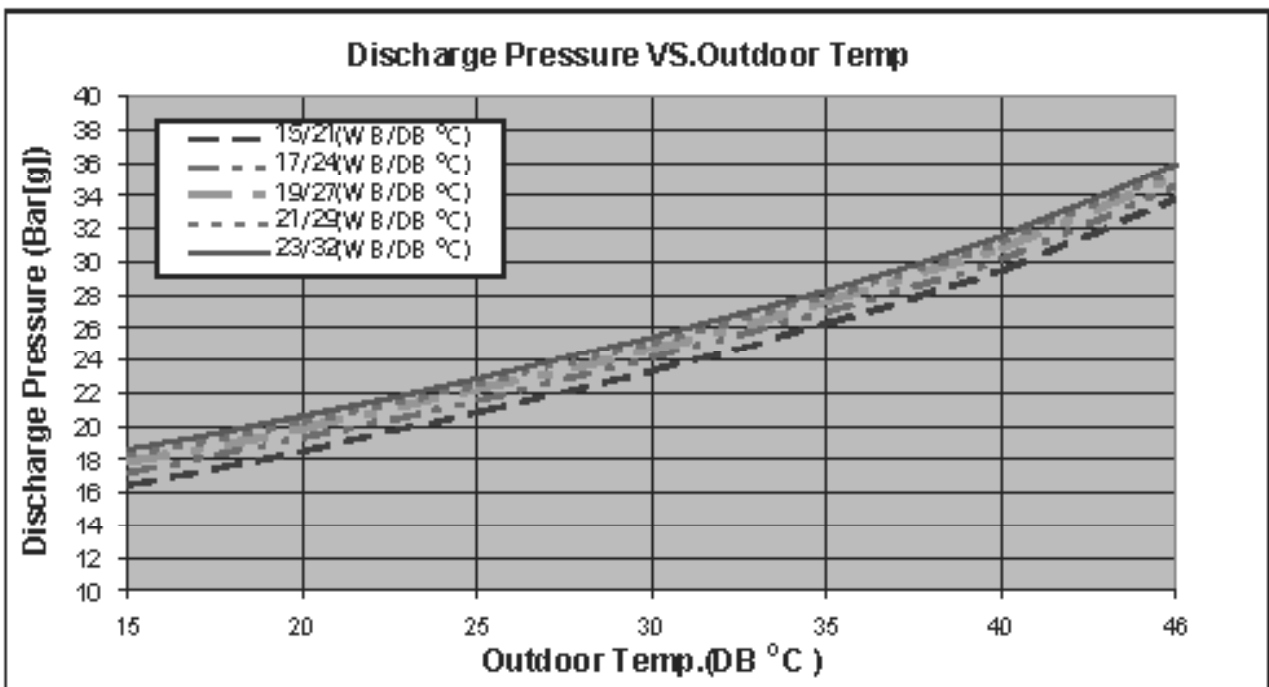
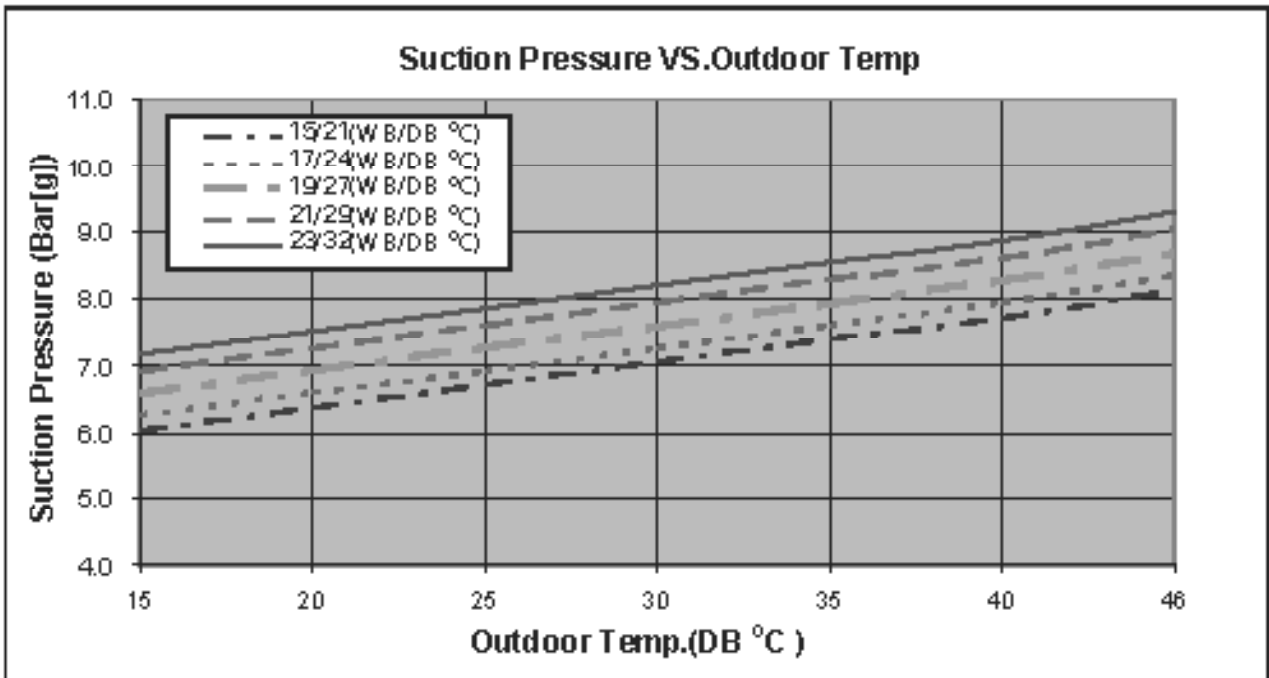
5.35.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.99	0.99	0.98	0.98	0.97	0.96	0.95

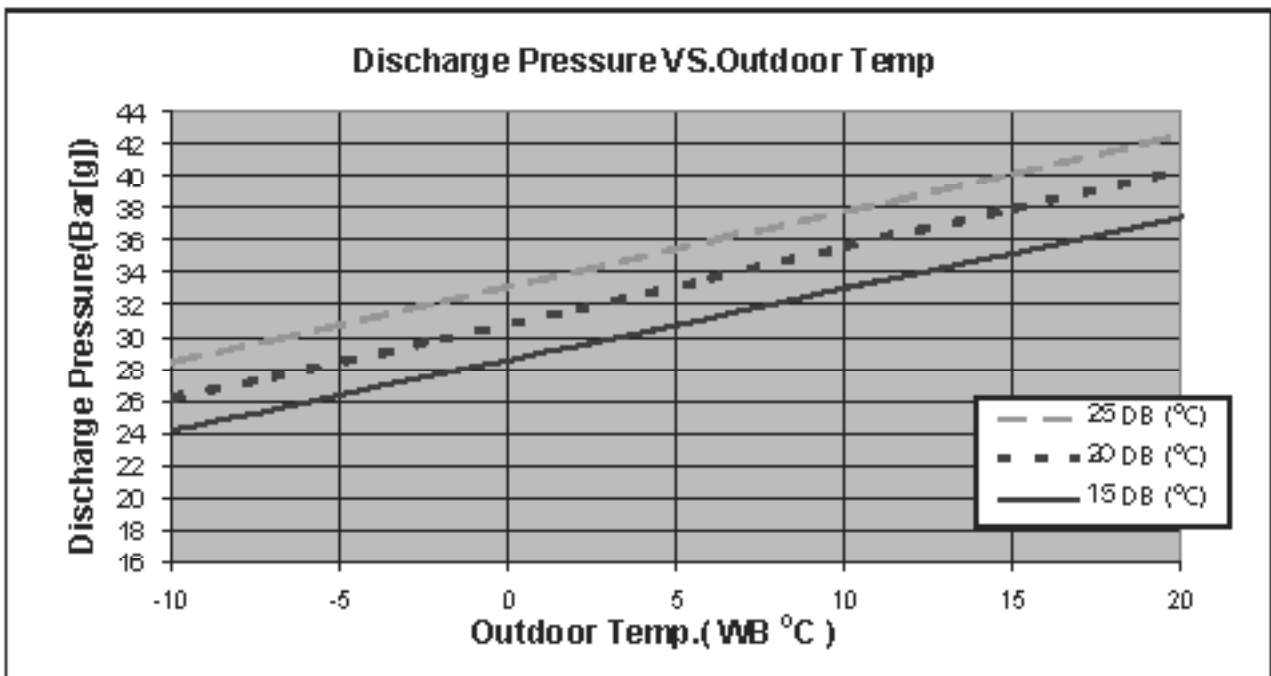
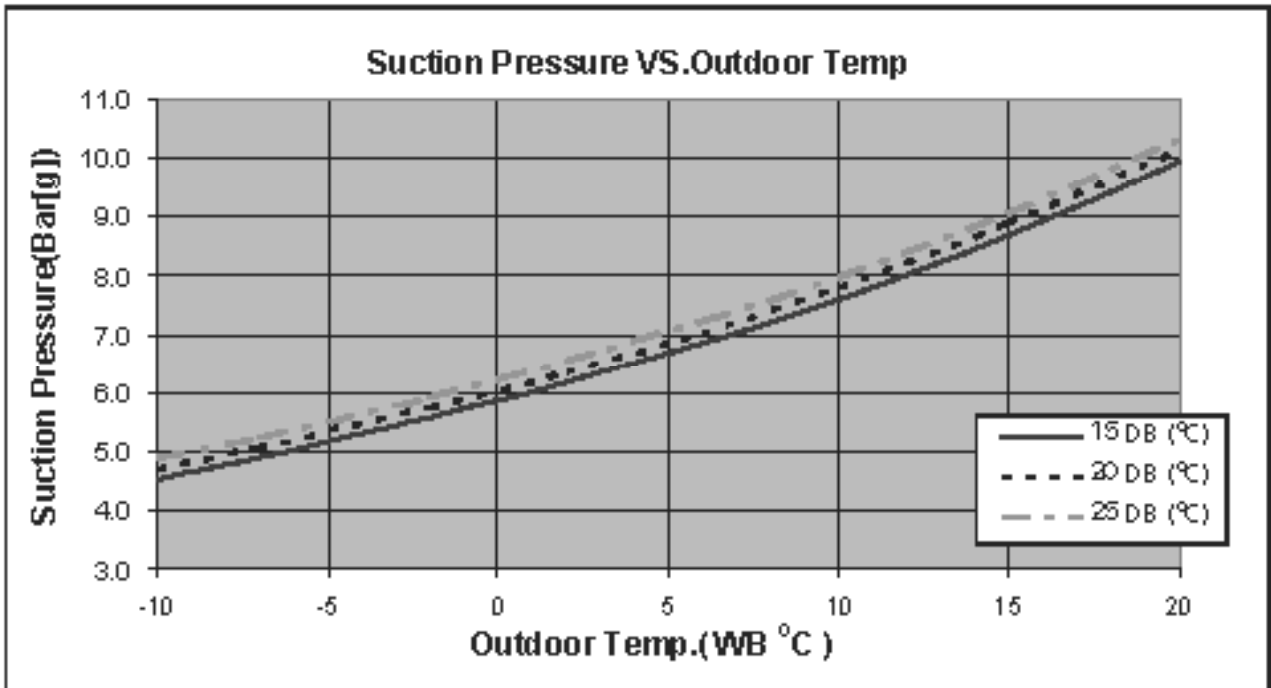
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.36 Pressure Curves.

5.36.1 Cooling.



5.36.2 Heating.



5.37 WNG7 GCN7 R407C

5.37.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.38	2.47	2.53	2.59	2.62
	SC	1.66	1.73	1.79	1.84	1.87
	PI	0.57	0.57	0.57	0.57	0.57
20 ⁽¹⁾	TC	2.30	2.43	2.51	2.57	2.62
	SC	1.62	1.71	1.78	1.83	1.87
	PI	0.62	0.62	0.62	0.62	0.62
25	TC	2.18	2.35	2.48	2.55	2.61
	SC	1.58	1.68	1.77	1.82	1.85
	PI	0.67	0.67	0.67	0.68	0.68
30	TC	2.04	2.22	2.40	2.48	2.56
	SC	1.53	1.63	1.73	1.78	1.81
	PI	0.72	0.73	0.73	0.74	0.75
35	TC	1.89	2.05	2.26	2.37	2.49
	SC	1.46	1.56	1.69	1.74	1.77
	PI	0.77	0.79	0.80	0.81	0.81
40	TC	1.72	1.87	2.04	2.23	2.34
	SC	1.37	1.48	1.60	1.65	1.68
	PI	0.84	0.85	0.86	0.87	0.88
46	TC	1.49	1.63	1.79	1.98	2.13
	SC	1.26	1.35	1.46	1.51	1.54
	PI	0.91	0.93	0.95	0.96	0.97

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.372.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.17	0.55	1.13	0.59	1.08	0.62
-7	1.26	0.57	1.22	0.60	1.17	0.63
-2	1.34	0.57	1.29	0.61	1.25	0.64
2	1.63	0.60	1.56	0.64	1.49	0.68
6	2.30	0.65	2.23	0.69	2.15	0.73
10	2.50	0.68	2.43	0.73	2.36	0.78
15	2.70	0.71	2.63	0.77	2.56	0.81
20	2.84	0.73	2.78	0.79	2.70	0.86

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.38 Capacity Correction Factor Due to Tubing Length

5.38.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.971	0.949	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

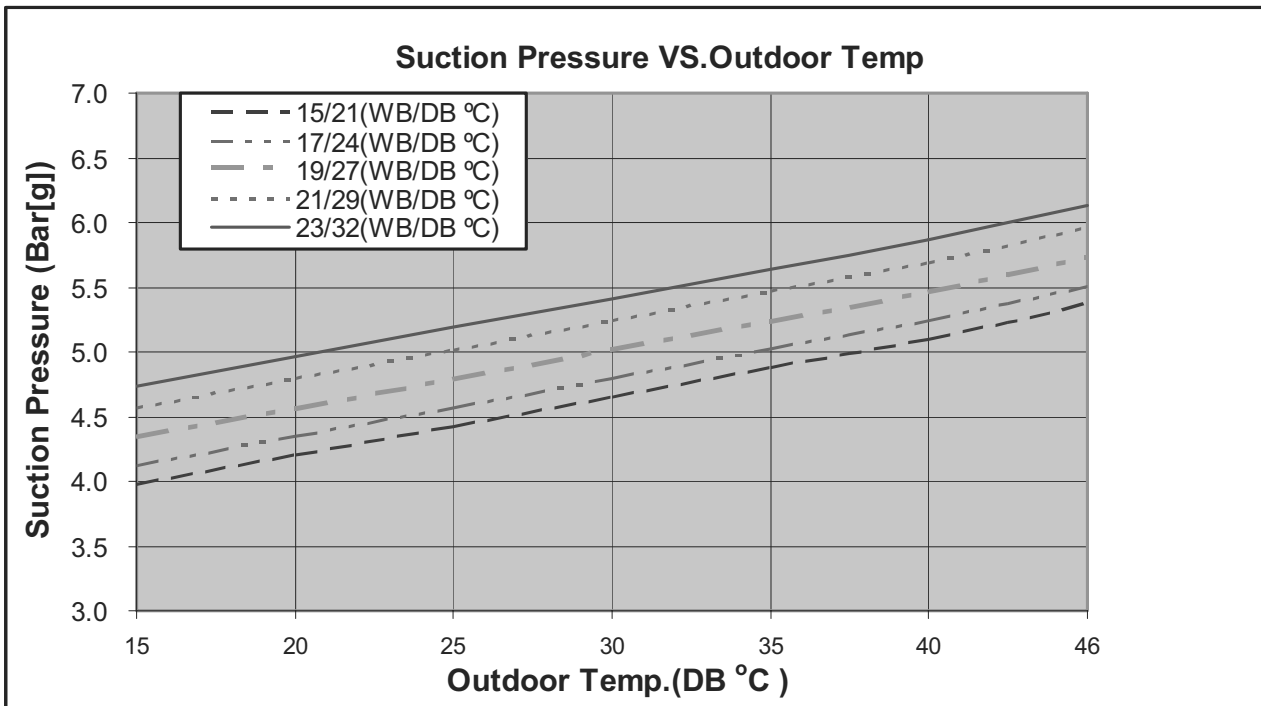
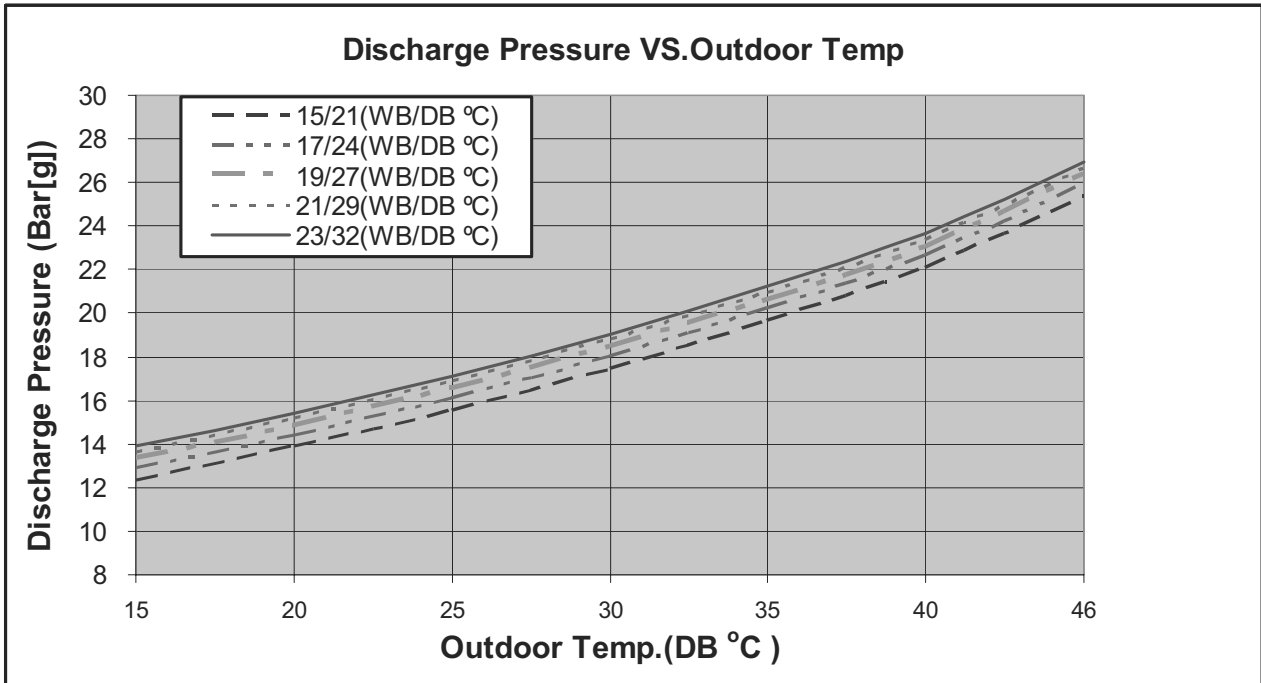
5.38.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.955	0.861	---	---	---	---	---

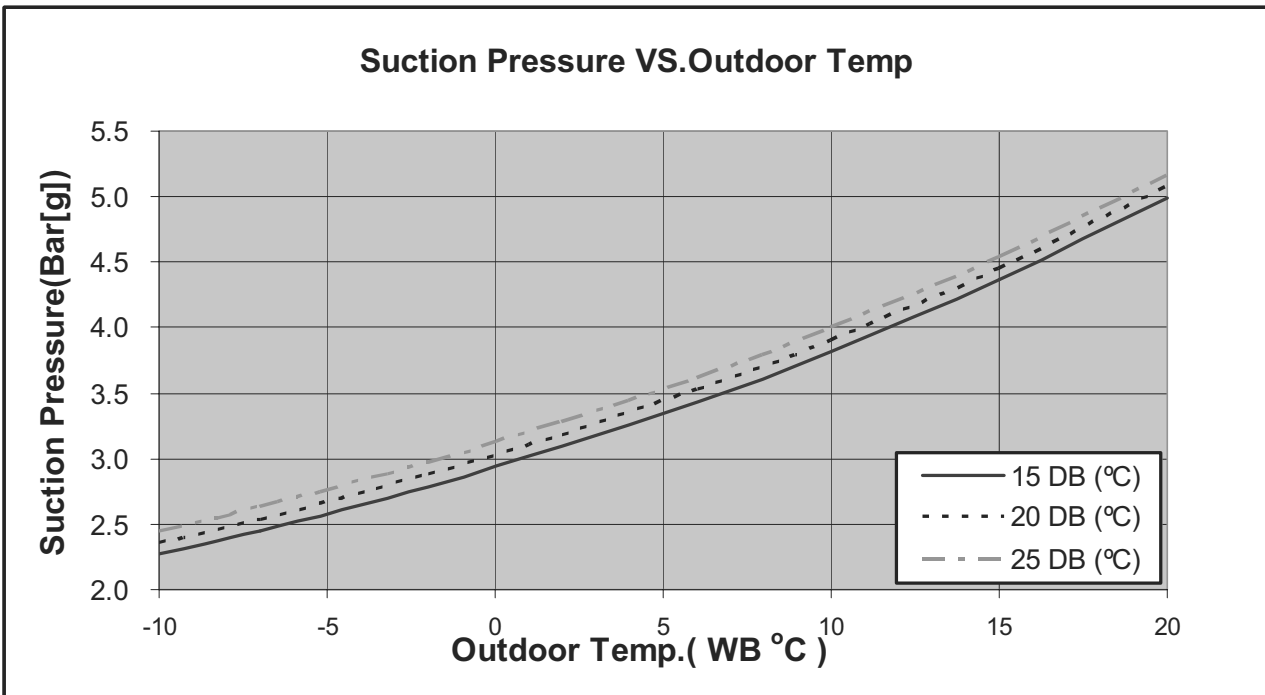
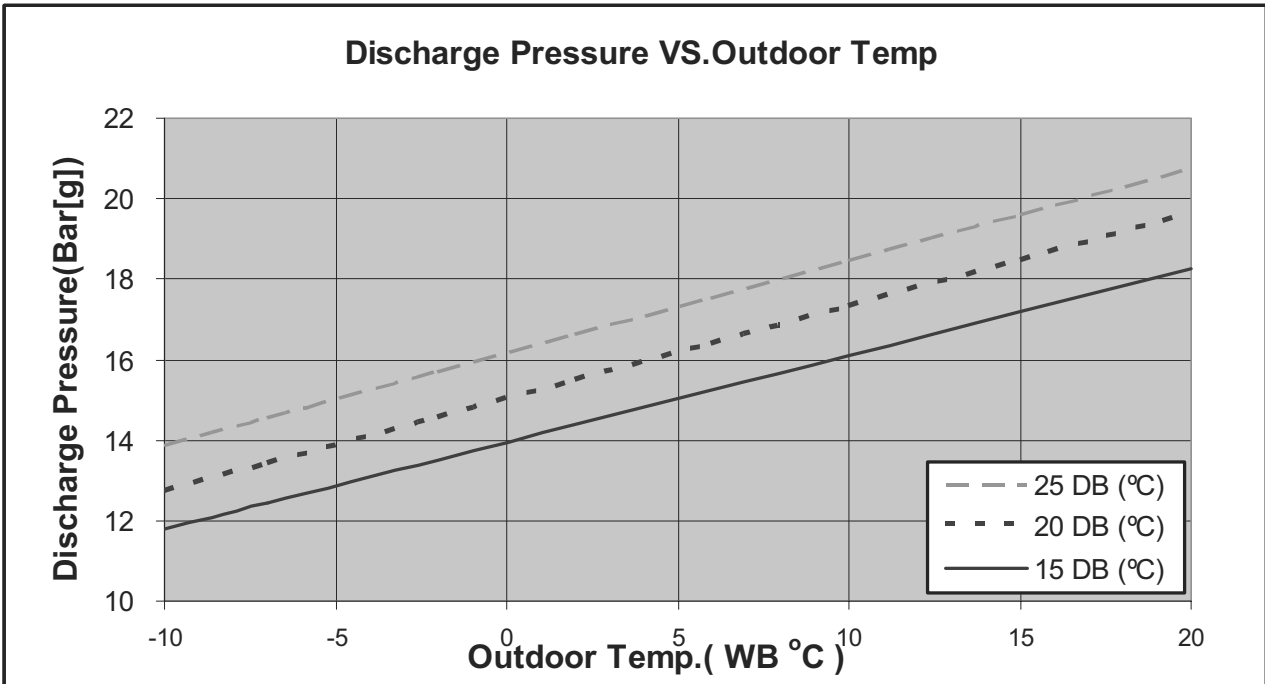
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.39 Pressure Curves.

5.39.1 Cooling.



5.39.2 Heating.



5.40 WNG9 ONG9 R407C

5.40.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.87	2.97	3.04	3.11	3.16
	SC	1.96	2.04	2.12	2.18	2.22
	PI	0.64	0.64	0.64	0.64	0.65
20 ⁽¹⁾	TC	2.77	2.92	3.02	3.09	3.15
	SC	1.92	2.02	2.11	2.17	2.21
	PI	0.69	0.70	0.70	0.70	0.70
25	TC	2.62	2.83	2.98	3.07	3.14
	SC	1.87	1.98	2.09	2.15	2.19
	PI	0.75	0.75	0.76	0.76	0.77
30	TC	2.45	2.67	2.89	2.99	3.08
	SC	1.81	1.93	2.05	2.11	2.15
	PI	0.81	0.82	0.83	0.83	0.84
35	TC	2.27	2.47	2.72	2.86	2.99
	SC	1.72	1.85	2.00	2.06	2.10
	PI	0.87	0.89	0.90	0.91	0.91
40	TC	2.07	2.25	2.45	2.68	2.82
	SC	1.62	1.75	1.89	1.95	1.99
	PI	0.94	0.95	0.97	0.98	0.99
46	TC	1.79	1.96	2.16	2.38	2.57
	SC	1.50	1.60	1.73	1.79	1.83
	PI	1.03	1.04	1.07	1.08	1.09

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.40.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.57	0.74	1.51	0.79	1.45	0.83
-7	1.69	0.76	1.63	0.80	1.57	0.85
-2	1.79	0.77	1.73	0.82	1.67	0.86
2	2.18	0.81	2.09	0.86	2.00	0.91
6	3.08	0.87	2.99	0.93	2.89	0.99
10	3.35	0.92	3.26	0.98	3.17	1.05
15	3.62	0.96	3.53	1.03	3.44	1.10
20	3.81	0.99	3.72	1.07	3.62	1.15

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.41 Capacity Correction Factor Due to Tubing Length

5.41.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.973	0.95	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

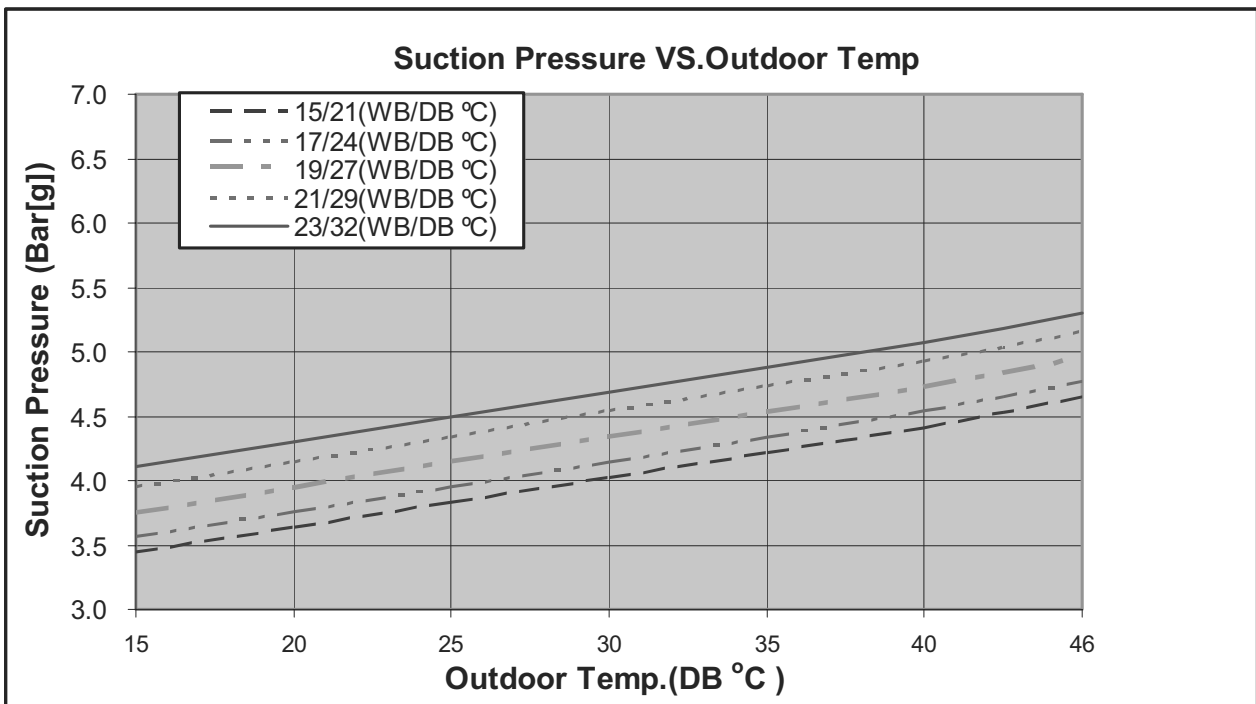
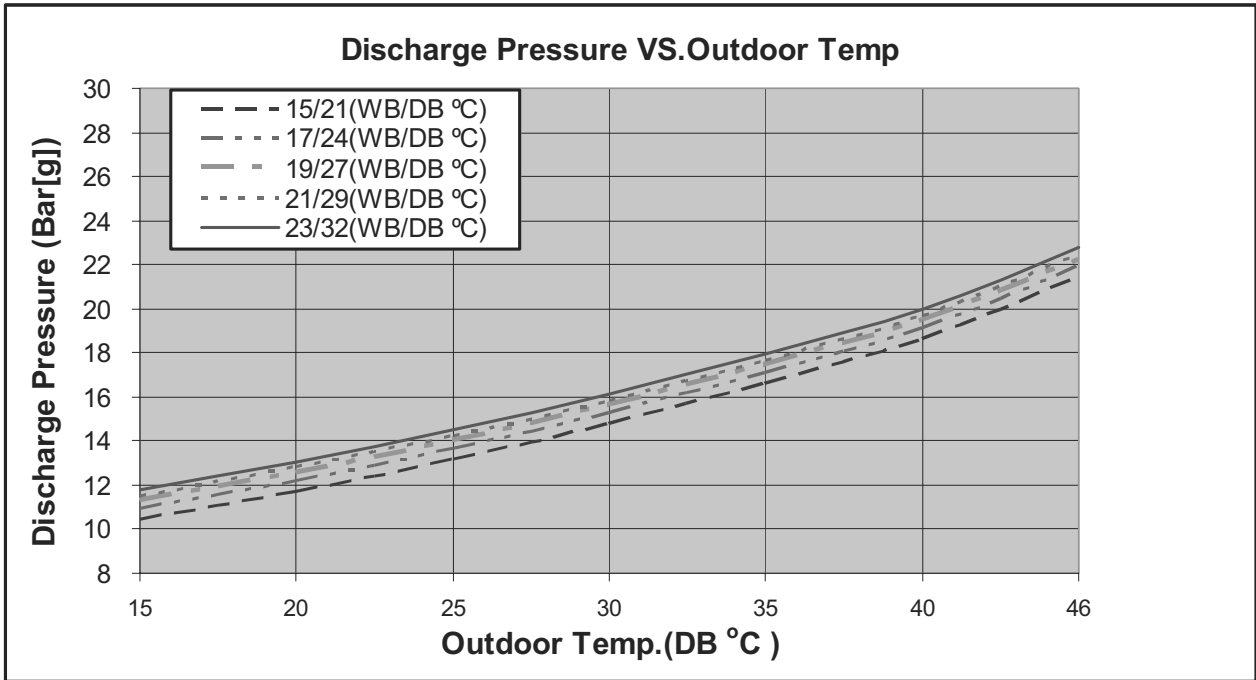
5.41.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.974	0.96	---	---	---	---	---

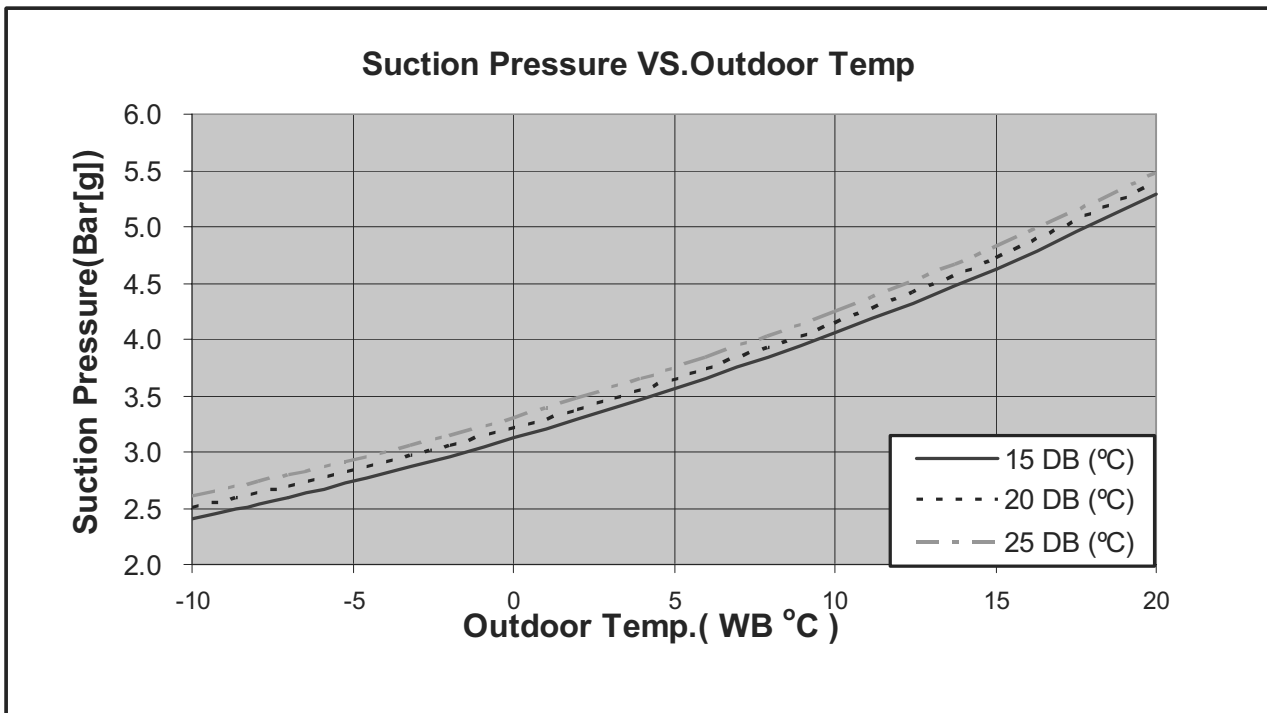
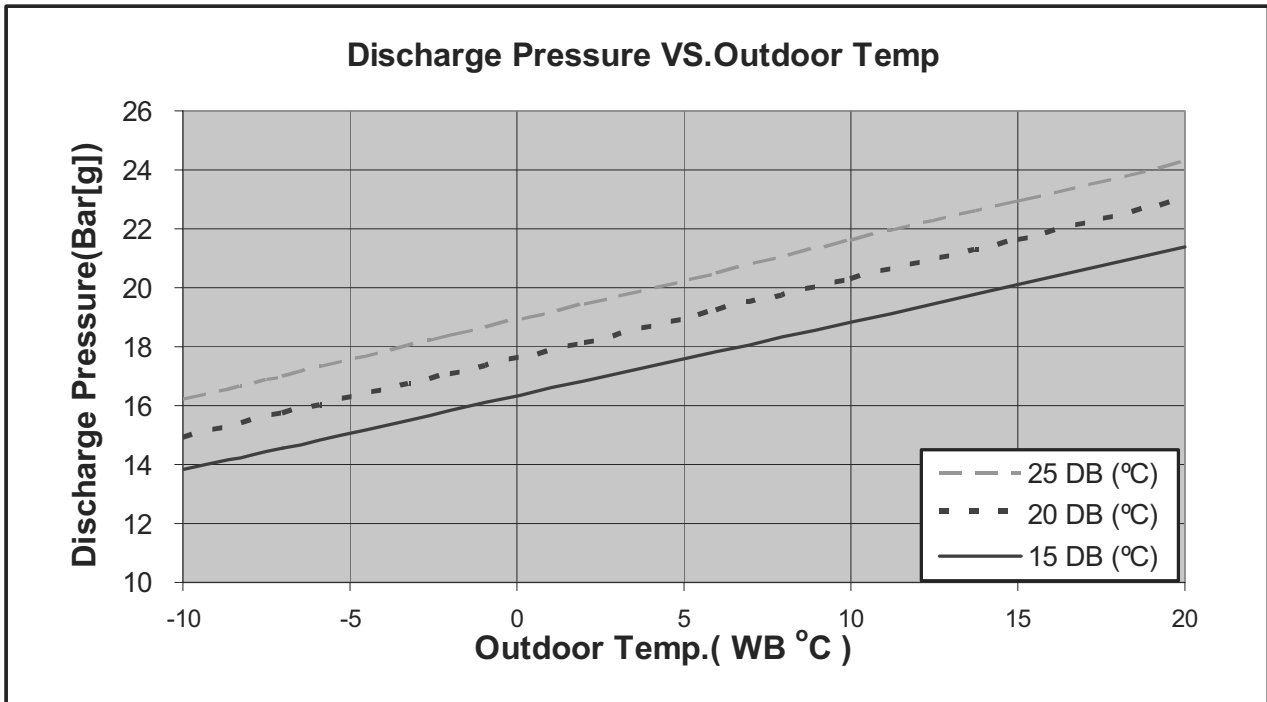
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.42 Pressure Curves.

5.42.1 Cooling.



5.42.2 Heating.



5.43 WNG12 ONG12 R407C

5.43.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	3.83	3.96	4.06	4.15	4.22
	SC	2.56	2.67	2.77	2.84	2.89
	PI	0.85	0.85	0.85	0.86	0.86
20 ⁽¹⁾	TC	3.70	3.90	4.02	4.12	4.21
	SC	2.51	2.64	2.75	2.83	2.88
	PI	0.92	0.93	0.93	0.93	0.94
25	TC	3.50	3.78	3.98	4.10	4.20
	SC	2.44	2.59	2.73	2.81	2.86
	PI	1.00	1.01	1.01	1.02	1.03
30	TC	3.28	3.57	3.85	3.99	4.11
	SC	2.36	2.51	2.67	2.75	2.80
	PI	1.08	1.09	1.10	1.11	1.12
35	TC	3.03	3.29	3.63	3.81	3.99
	SC	2.25	2.41	2.61	2.69	2.74
	PI	1.16	1.18	1.20	1.21	1.22
40	TC	2.76	3.00	3.28	3.58	3.77
	SC	2.12	2.28	2.47	2.55	2.60
	PI	1.25	1.27	1.29	1.31	1.32
46	TC	2.39	2.62	2.88	3.18	3.42
	SC	1.95	2.09	2.25	2.33	2.38
	PI	1.37	1.39	1.42	1.44	1.46

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.43.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.00	0.94	1.92	1.01	1.85	1.06
-7	2.15	0.97	2.08	1.02	2.00	1.08
-2	2.29	0.98	2.21	1.04	2.13	1.10
2	2.78	1.03	2.67	1.09	2.55	1.16
6	3.92	1.10	3.81	1.18	3.68	1.25
10	4.27	1.16	5.00	1.24	4.04	1.33
15	4.61	1.22	4.50	1.31	4.38	1.39
20	4.86	1.25	4.74	1.36	4.61	1.46

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.44 Capacity Correction Factor Due to Tubing Length

5.44.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.949	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

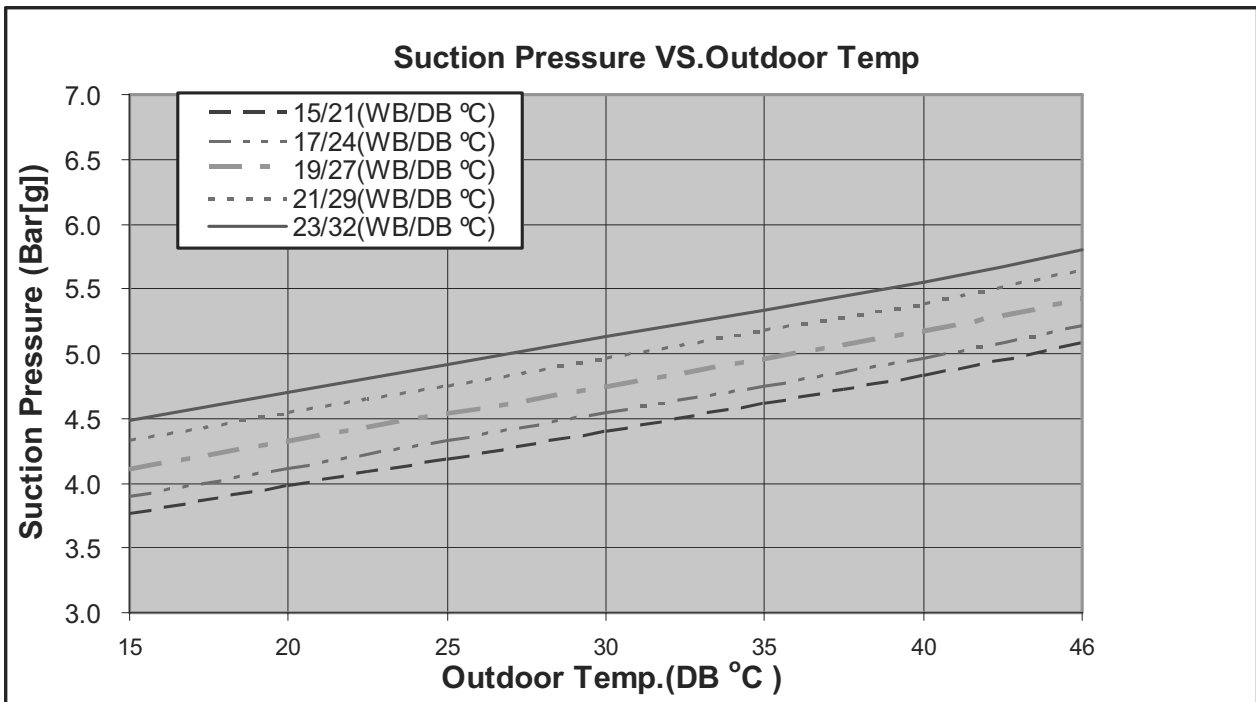
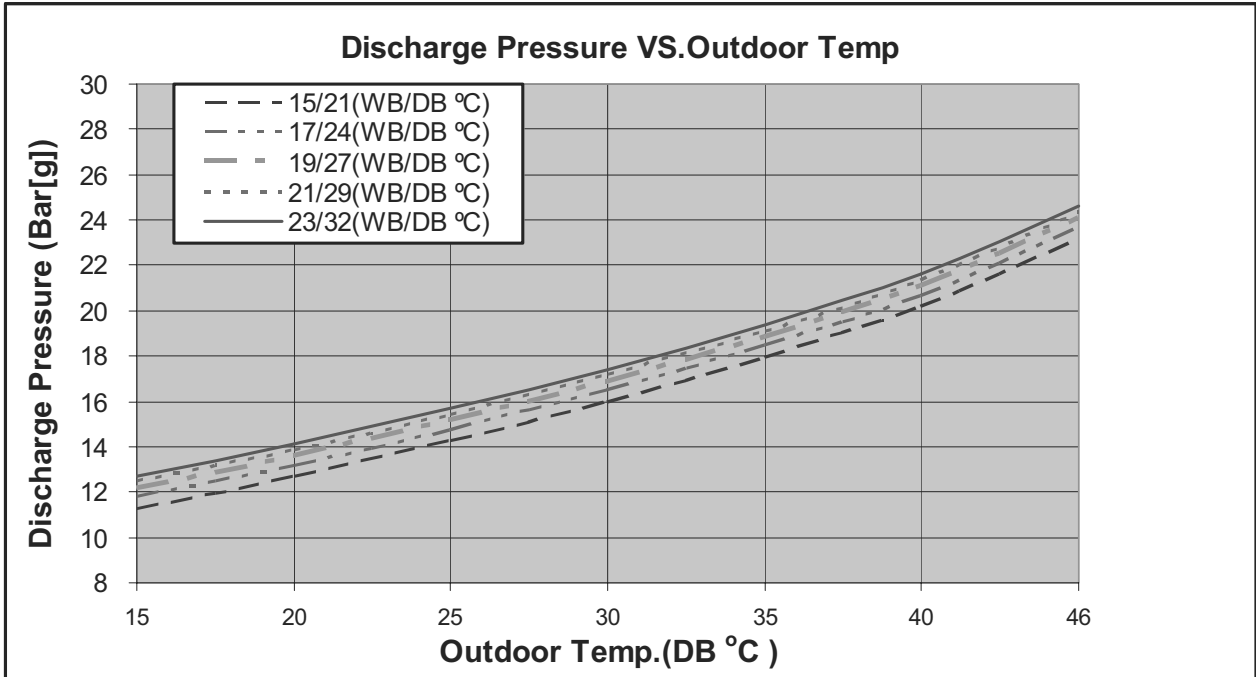
5.44.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	0.975	0.953	---	---	---	---	---

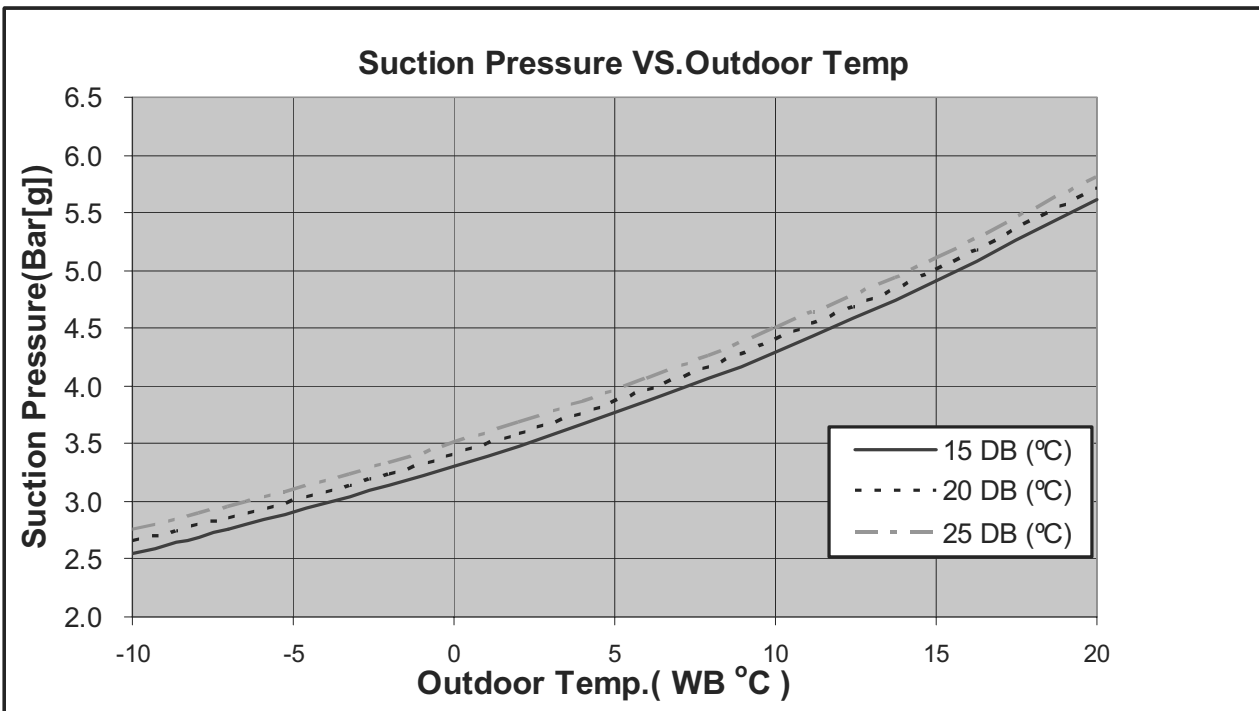
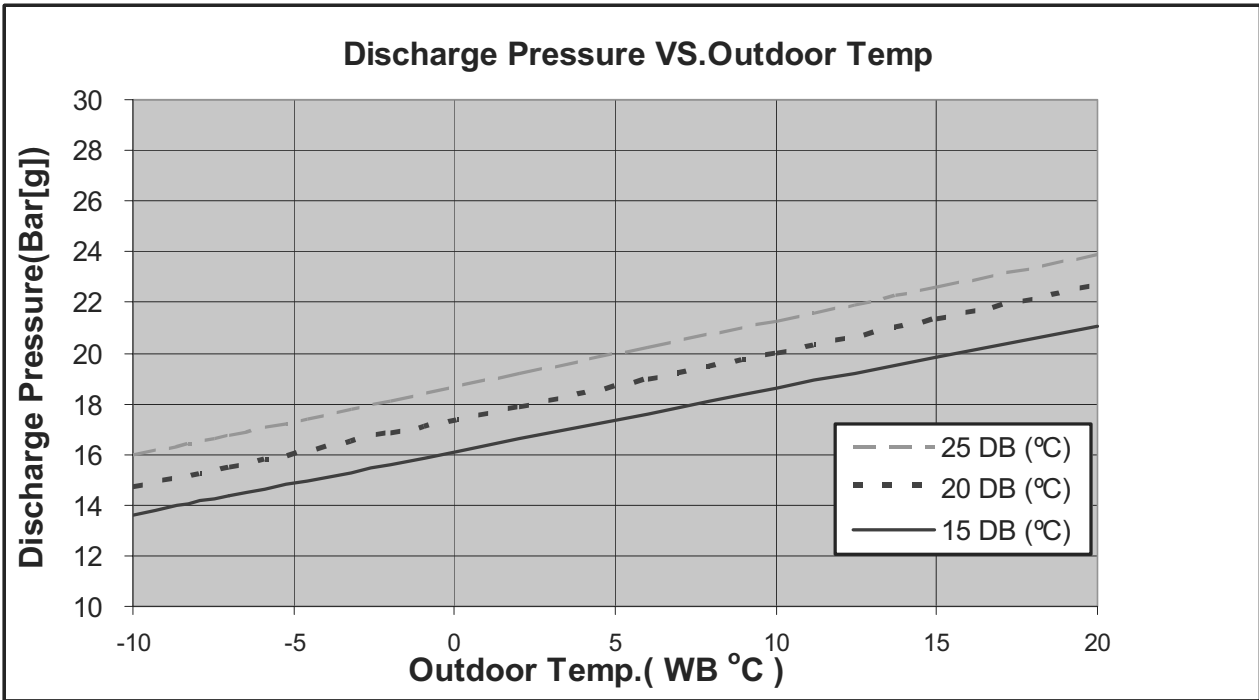
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.45 Pressure Curves.

5.45.1 Cooling.



5.45.2 Heating.



5.46 WNG14 ONG14 R407C

5.46.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	4.38	4.54	4.65	4.76	4.83
	SC	2.85	2.97	3.09	3.16	3.22
	PI	1.04	1.04	1.04	1.04	1.05
20 ⁽¹⁾	TC	4.24	4.47	4.61	4.72	4.82
	SC	2.79	2.94	3.07	3.16	3.21
	PI	1.12	1.13	1.13	1.14	1.14
25	TC	4.01	4.33	4.56	4.69	4.81
	SC	2.72	2.89	3.05	3.13	3.19
	PI	1.21	1.22	1.23	1.24	1.25
30	TC	3.75	4.09	4.42	4.57	4.71
	SC	2.64	2.80	2.98	3.07	3.12
	PI	1.31	1.33	1.34	1.35	1.36
35	TC	3.48	3.77	4.16	4.37	4.58
	SC	2.51	2.69	2.91	2.99	3.05
	PI	1.41	1.44	1.46	1.47	1.48
40	TC	3.16	3.44	3.75	4.10	4.32
	SC	2.36	2.54	2.75	2.84	2.90
	PI	1.52	1.55	1.57	1.59	1.61
46	TC	2.74	3.00	3.30	3.64	3.92
	SC	2.18	2.33	2.51	2.60	2.66
	PI	1.67	1.69	1.73	1.75	1.77

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.46.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.29	1.23	2.20	1.31	2.11	1.38
-7	2.46	1.26	2.38	1.33	2.29	1.40
-2	2.62	1.28	2.53	1.36	2.44	1.43
2	3.18	1.34	3.05	1.42	2.92	1.51
6	4.49	1.44	4.36	1.54	4.21	1.64
10	4.88	1.52	4.75	1.62	4.62	1.74
15	5.28	1.59	5.14	1.71	5.01	1.82
20	5.56	1.63	5.43	1.77	5.28	1.91

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.47 Capacity Correction Factor Due to Tubing Length

5.47.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.973	0.948	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

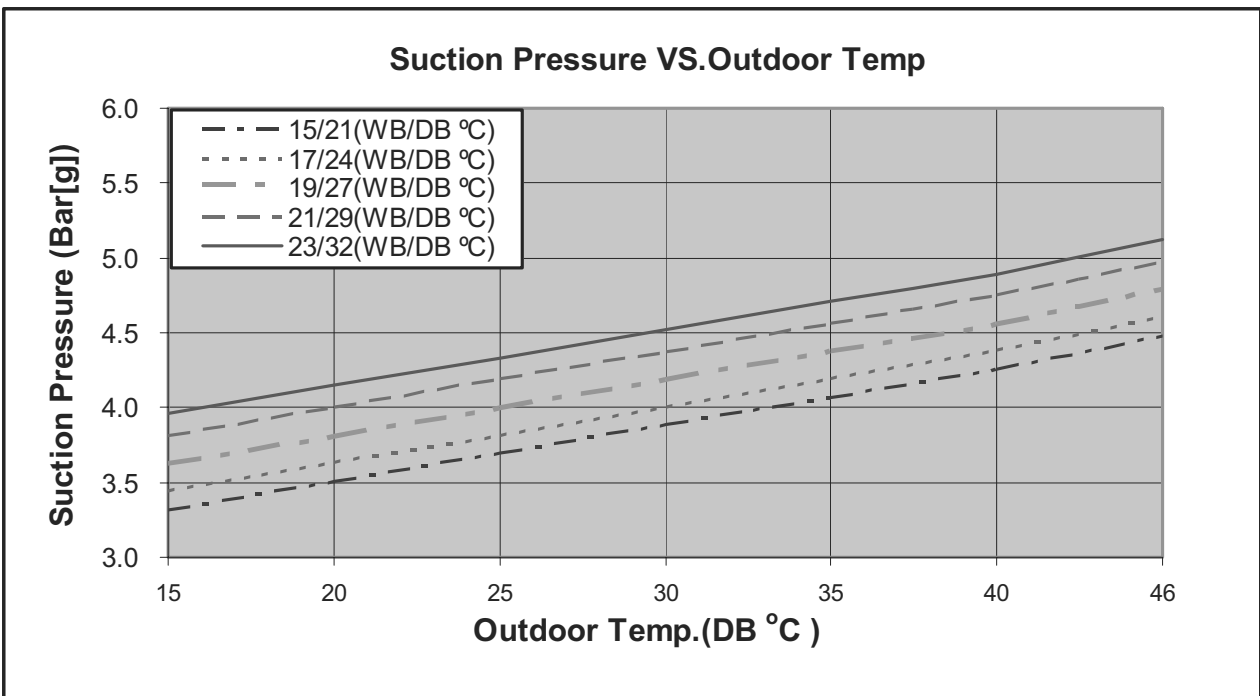
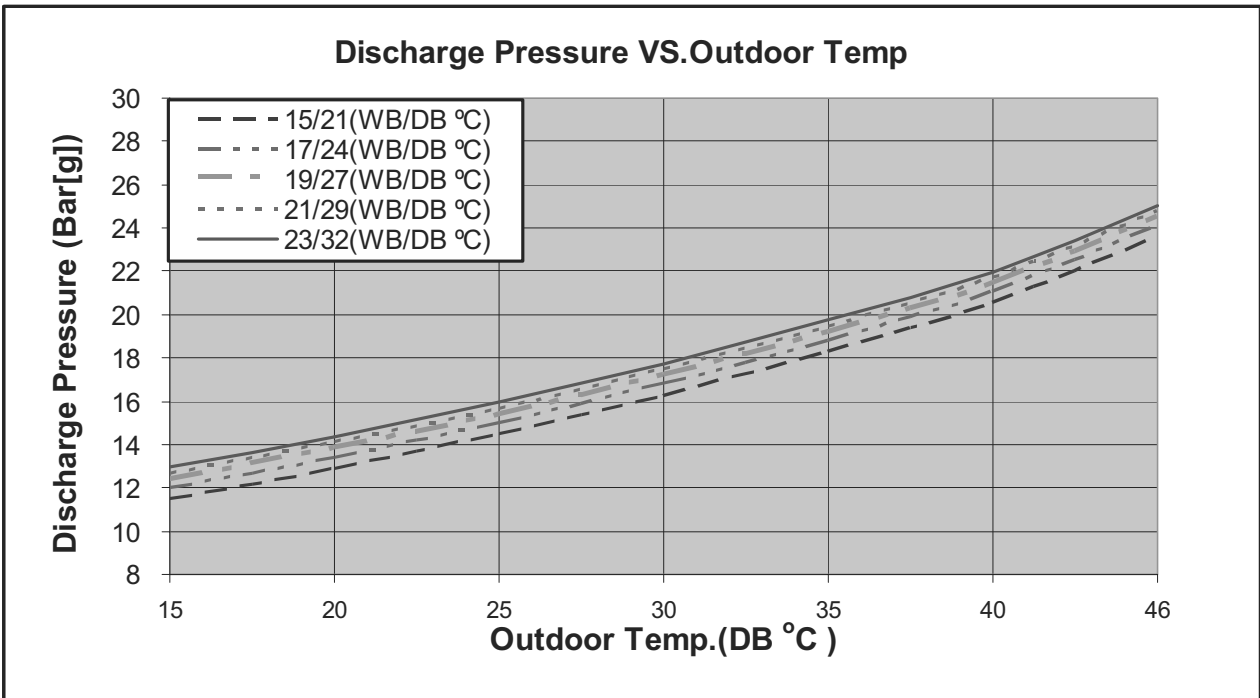
5.47.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.989	0.962	---	---	---	---	---

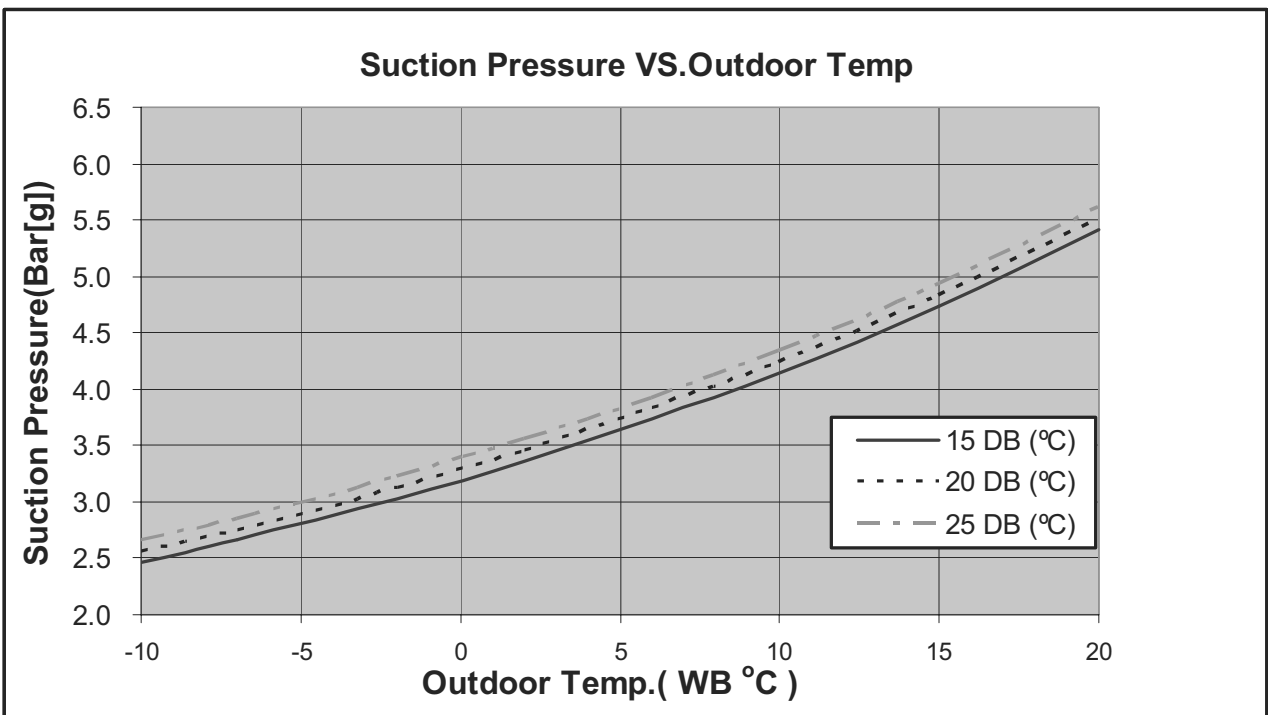
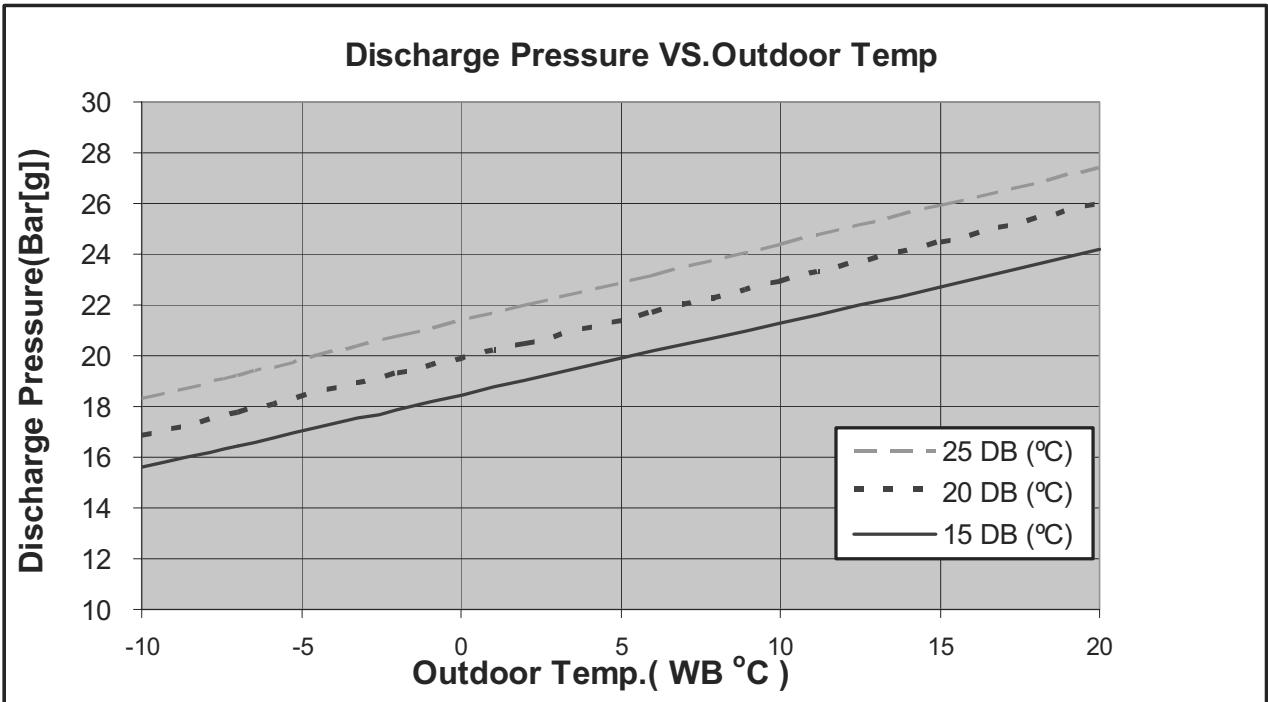
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.48 Pressure Curves.

5.48.1 Cooling.



5.48.2 Heating.



5.49 WNG30 OU8-33 R407C

5.49.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	9.28	9.61	9.83	10.07	10.22
	SC	6.07	6.33	6.58	6.74	6.87
	PI	2.40	2.40	2.41	2.41	2.42
20 ⁽¹⁾	TC	8.97	9.46	9.76	9.99	10.20
	SC	5.95	6.27	6.54	6.72	6.85
	PI	2.60	2.61	2.62	2.63	2.64
25	TC	8.49	9.17	9.64	9.93	10.17
	SC	5.80	6.15	6.49	6.67	6.80
	PI	2.81	2.83	2.85	2.87	2.89
30	TC	7.94	8.65	9.34	9.67	9.96
	SC	5.62	5.97	6.35	6.53	6.66
	PI	3.03	3.08	3.10	3.13	3.16
35	TC	7.35	7.98	8.80	9.24	9.68
	SC	5.34	5.72	6.20	6.38	6.50
	PI	3.27	3.33	3.38	3.41	3.42
40	TC	6.69	7.28	7.94	8.68	9.13
	SC	5.03	5.42	5.87	6.05	6.18
	PI	3.53	3.58	3.64	3.69	3.73
46	TC	5.80	6.34	6.97	7.71	8.30
	SC	4.64	4.97	5.35	5.53	5.66
	PI	3.86	3.91	4.00	4.06	4.10

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.49.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	5.06	3.10	4.87	3.31	4.68	3.47
-7	5.45	3.18	5.25	3.36	5.06	3.54
-2	5.78	3.22	5.59	3.41	5.40	3.61
2	7.04	3.38	6.75	3.59	6.46	3.80
6	9.93	3.63	9.64	3.88	9.30	4.12
10	10.80	3.83	10.51	4.09	10.22	4.38
15	11.66	4.00	11.38	4.31	11.09	4.58
20	12.29	4.11	12.00	4.46	11.66	4.81

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.50 Capacity Correction Factor Due to Tubing Length

5.50.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.990	0.971	0.952	0.933	0.914	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

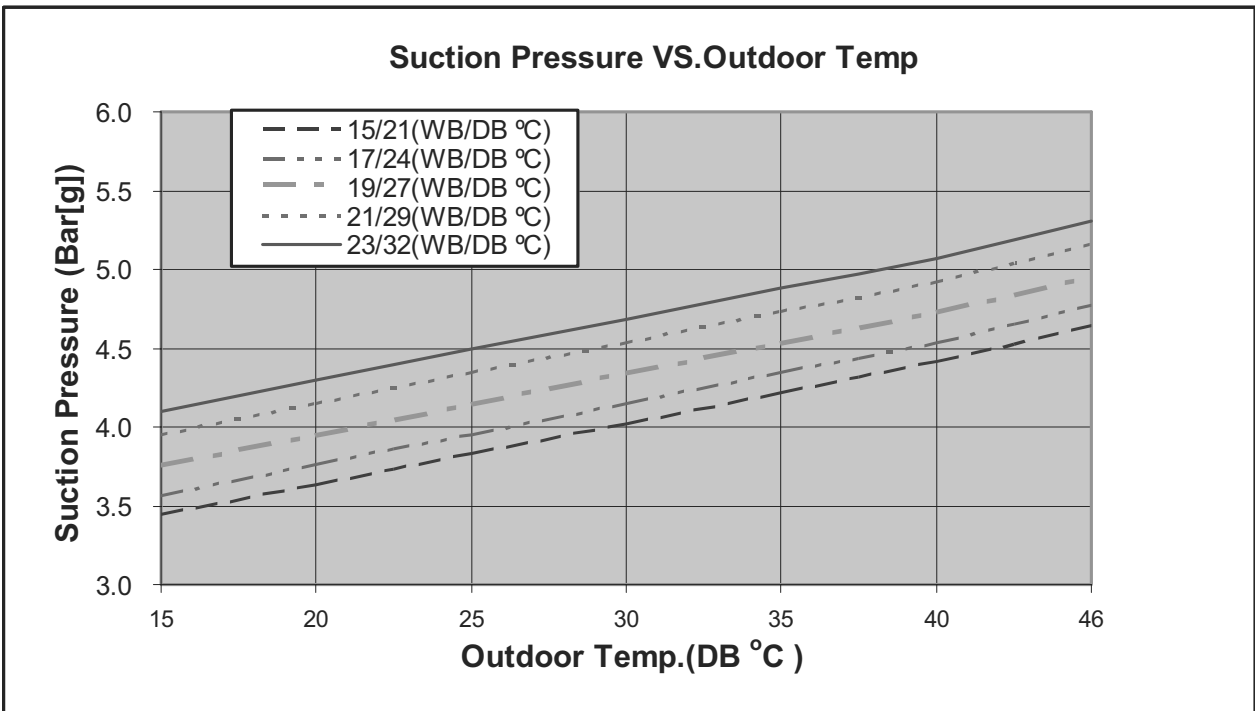
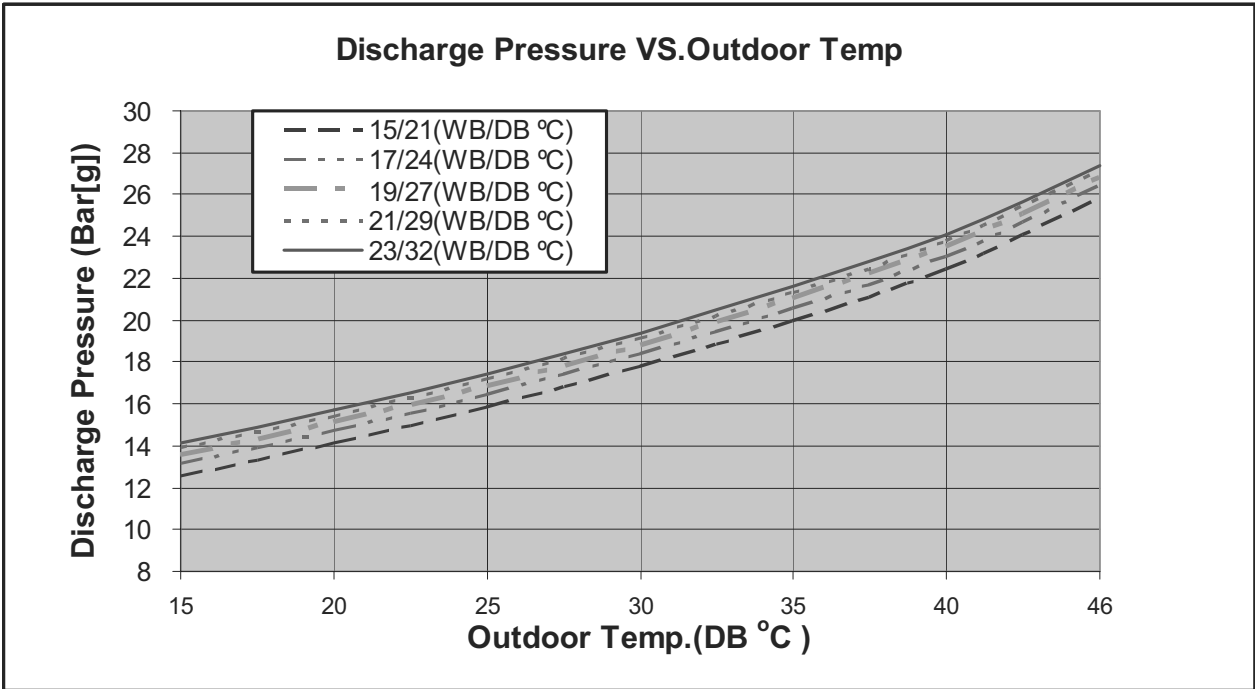
5.50.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.994	0.984	0.973	0.963	0.952	---	---

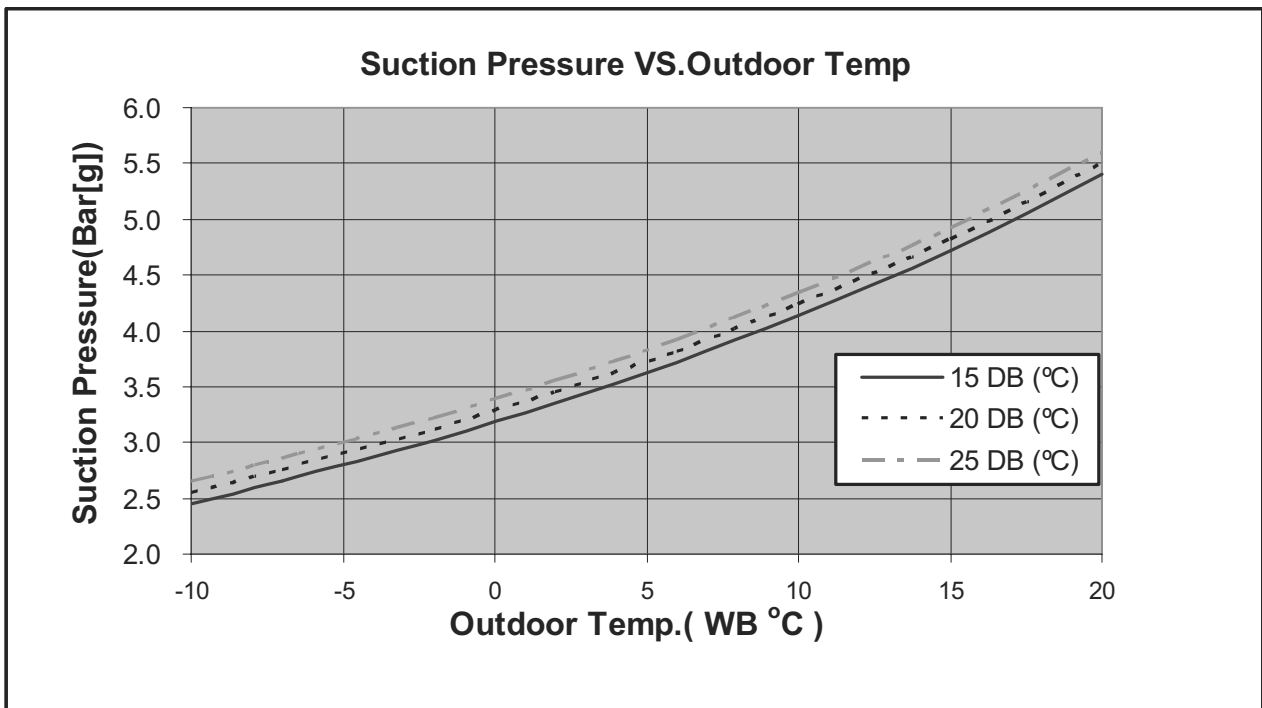
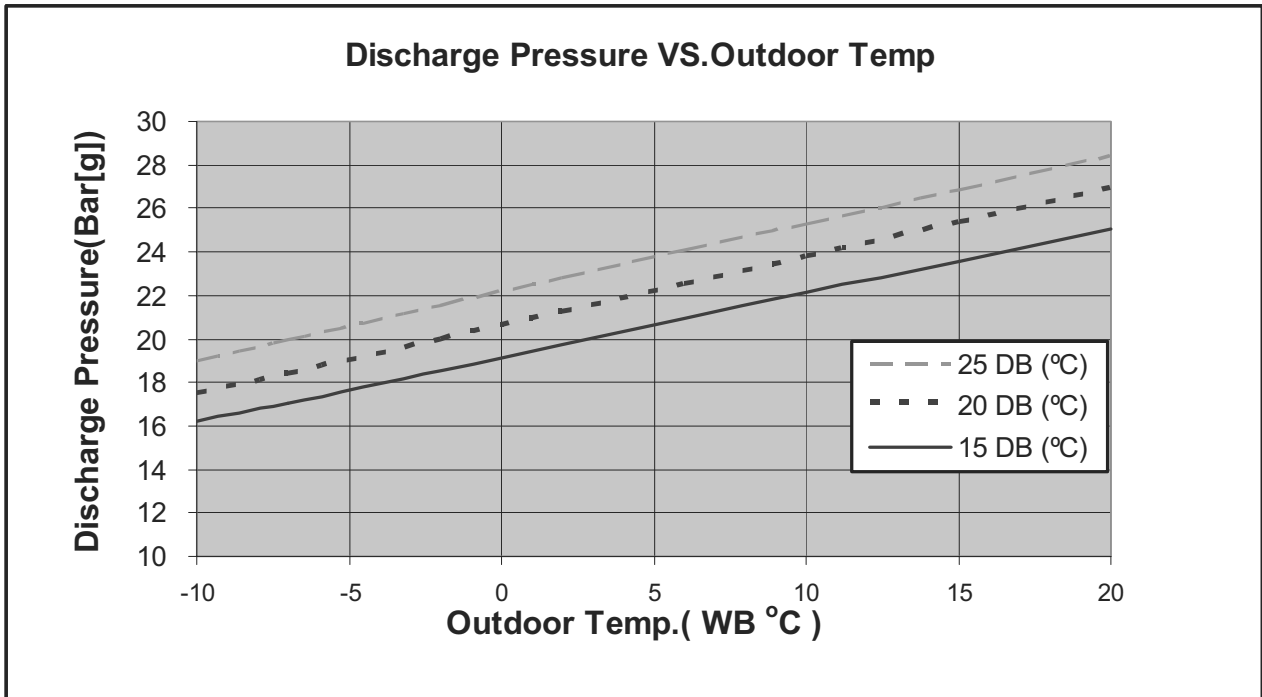
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.51 Pressure Curves.

5.51.1 Cooling.



5.51.2 Heating.



5.52 WNG30 OU8-33T R407C

5.52.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	9.20	9.53	9.76	9.99	10.14
	SC	5.68	5.92	6.15	6.31	6.42
	PI	2.41	2.42	2.42	2.43	2.44
20 ⁽¹⁾	TC	8.90	9.38	9.68	9.91	10.12
	SC	5.57	5.87	6.12	6.29	6.41
	PI	2.62	2.63	2.63	2.65	2.65
25	TC	8.42	9.09	9.56	9.85	10.09
	SC	5.42	5.76	6.07	6.24	6.36
	PI	2.83	2.85	2.87	2.89	2.91
30	TC	7.88	8.58	9.27	9.60	9.88
	SC	5.25	5.58	5.94	6.11	6.23
	PI	3.05	3.10	3.12	3.15	3.18
35	TC	7.29	7.91	8.73	9.17	9.60
	SC	5.00	5.36	5.80	5.97	6.08
	PI	3.29	3.35	3.40	3.43	3.44
40	TC	6.63	7.22	7.88	8.61	9.06
	SC	4.71	5.07	5.49	5.66	5.78
	PI	3.55	3.60	3.67	3.71	3.75
46	TC	5.75	6.29	6.92	7.64	8.24
	SC	4.34	4.65	5.00	5.18	5.29
	PI	3.88	3.94	4.03	4.08	4.13

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.52.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.81	2.66	4.63	2.84	4.44	2.98
-7	5.18	2.73	4.99	2.88	4.81	3.04
-2	5.50	2.76	5.31	2.93	5.13	3.10
2	6.69	2.90	6.41	3.08	6.14	3.26
6	9.43	3.11	9.16	3.33	8.84	3.54
10	10.26	3.29	9.98	3.51	9.71	3.76
15	11.08	3.43	10.81	3.70	10.53	3.93
20	11.68	3.53	11.40	3.83	11.08	4.13

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.53.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.990	0.971	0.952	0.933	0.914	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

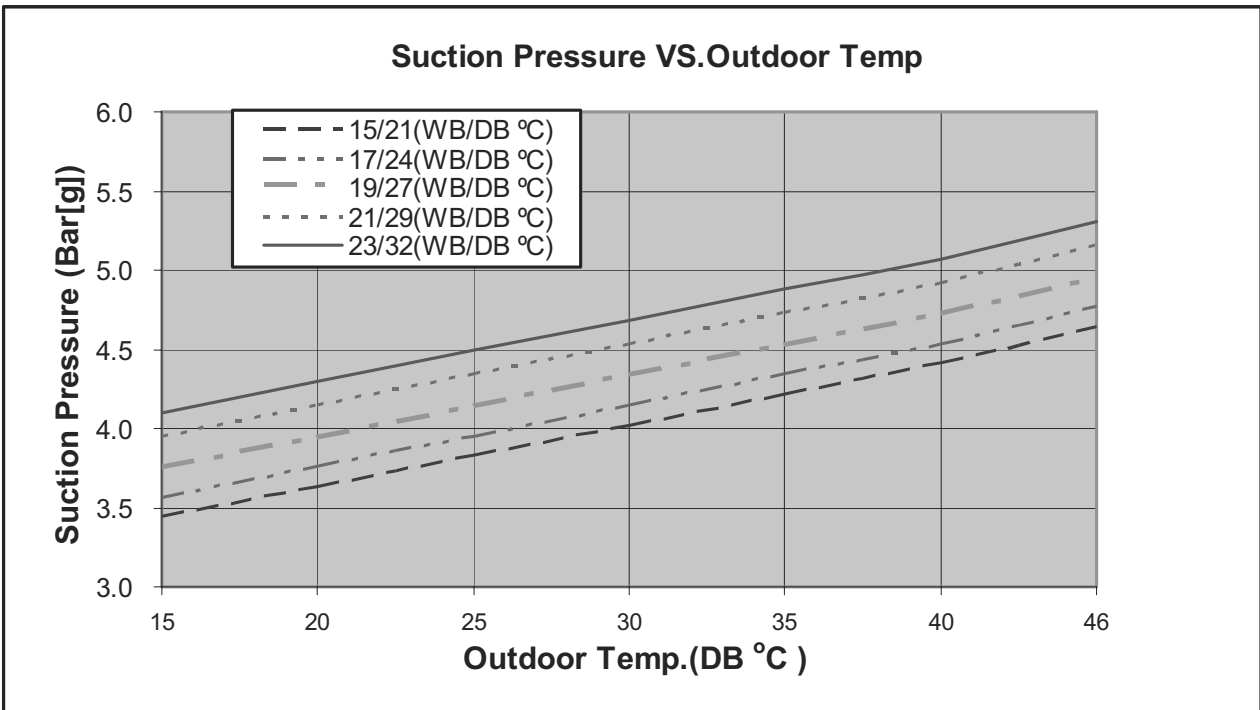
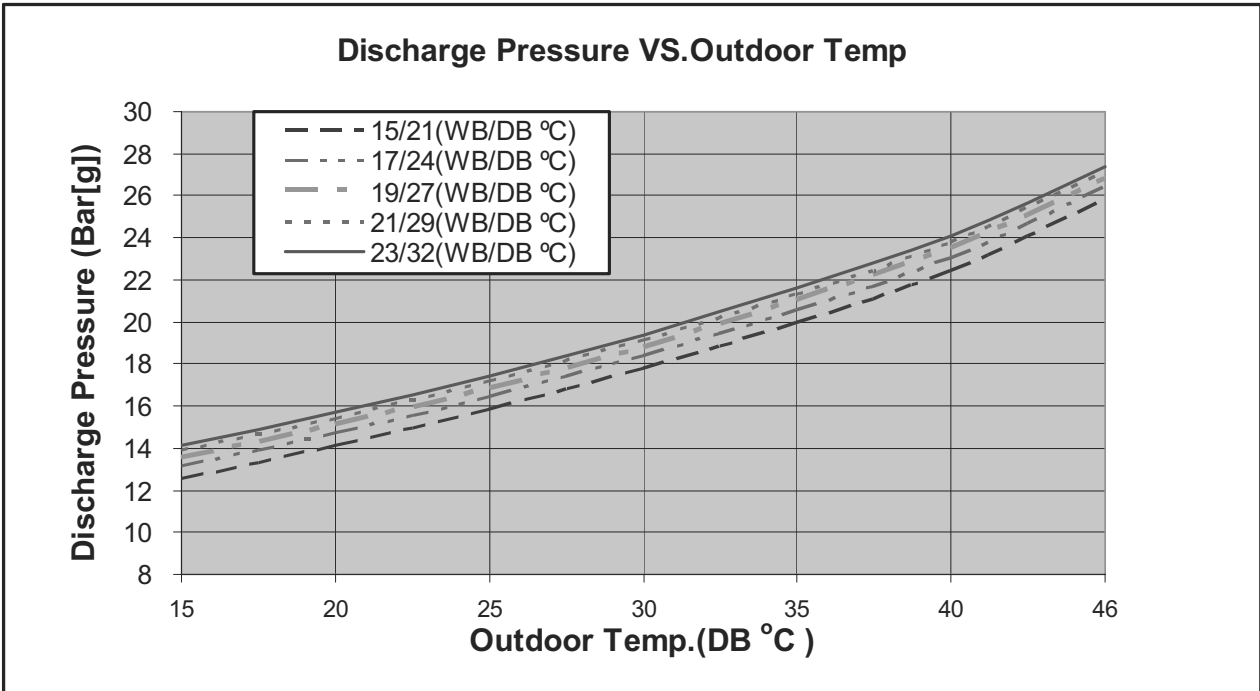
5.53.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.994	0.984	0.973	0.963	0.952	---	---

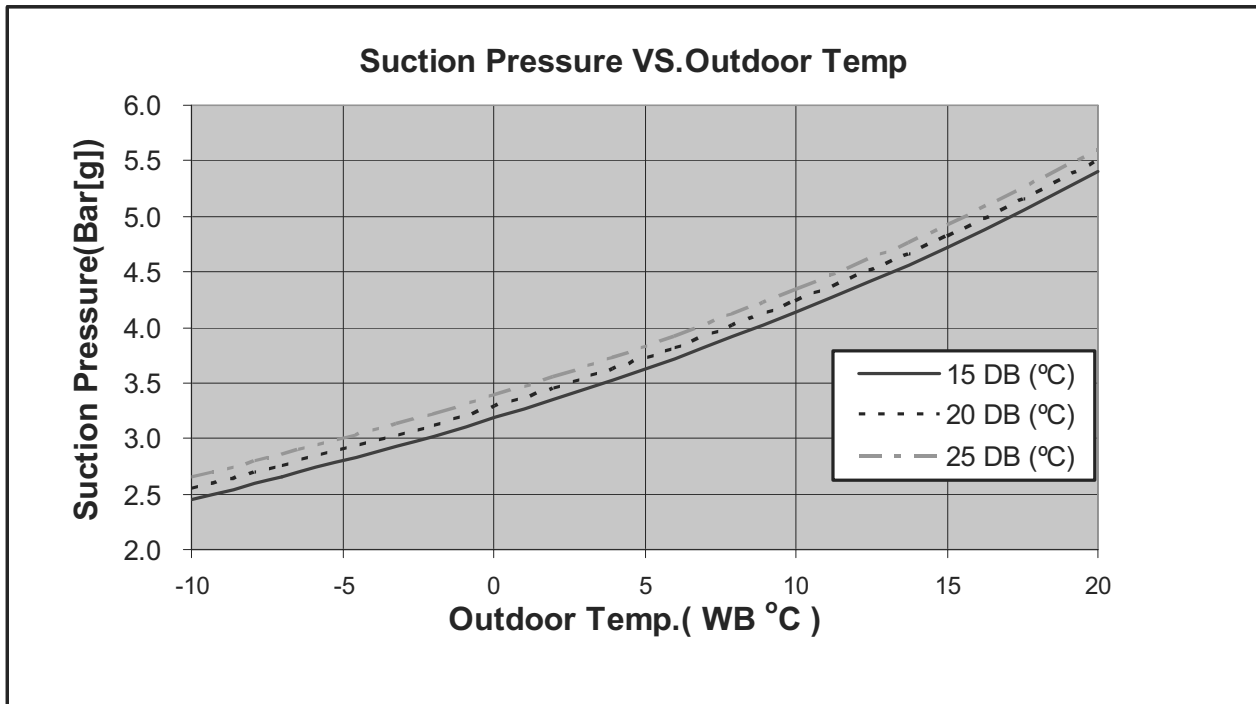
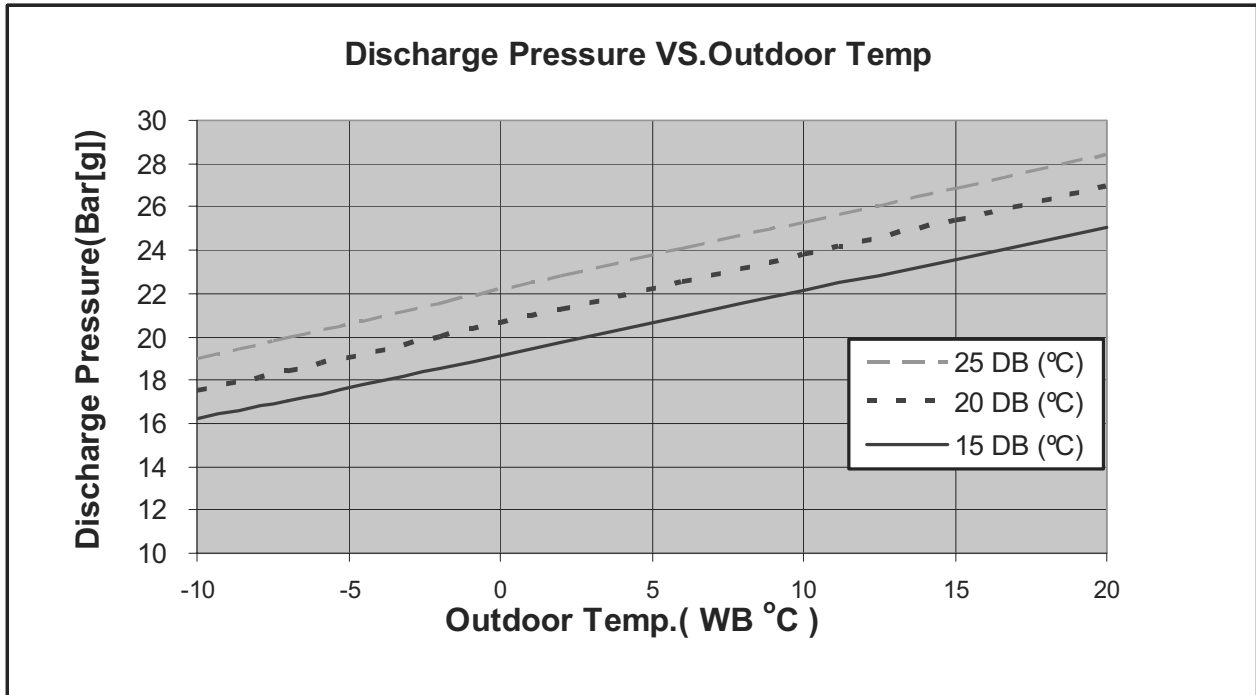
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.54 Pressure Curves.

5.54.1 Cooling.



5.54.2 Heating.



5.55 WNG7 GCN7 R22

5.55.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.39	2.48	2.54	2.60	2.64
	SC	1.60	1.66	1.73	1.77	1.81
	PI	0.57	0.57	0.57	0.57	0.57
20 ⁽¹⁾	TC	2.31	2.44	2.52	2.58	2.63
	SC	1.56	1.65	1.72	1.77	1.80
	PI	0.62	0.62	0.62	0.62	0.62
25	TC	2.19	2.36	2.49	2.56	2.62
	SC	1.52	1.62	1.71	1.75	1.79
	PI	0.67	0.67	0.67	0.68	0.68
30	TC	2.05	2.23	2.41	2.49	2.57
	SC	1.48	1.57	1.67	1.72	1.75
	PI	0.72	0.73	0.73	0.74	0.75
35	TC	1.90	2.06	2.27	2.38	2.50
	SC	1.40	1.50	1.63	1.68	1.71
	PI	0.77	0.79	0.80	0.81	0.81
40	TC	1.72	1.88	2.05	2.24	2.36
	SC	1.32	1.42	1.54	1.59	1.62
	PI	0.84	0.85	0.86	0.87	0.88
46	TC	1.50	1.64	1.80	1.99	2.14
	SC	1.22	1.31	1.41	1.45	1.49
	PI	0.91	0.93	0.95	0.96	0.97

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.55.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.22	0.54	1.17	0.58	1.13	0.61
-7	1.31	0.56	1.26	0.59	1.22	0.62
-2	1.39	0.56	1.35	0.60	1.30	0.63
2	1.69	0.59	1.62	0.63	1.55	0.67
6	2.39	0.64	2.32	0.68	2.24	0.72
10	2.60	0.67	2.53	0.72	2.46	0.77
15	2.81	0.70	2.74	0.75	2.67	0.80
20	2.96	0.72	2.89	0.78	2.81	0.84

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.56 Capacity Correction Factor Due to Tubing Length

5.56.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.983	0.948	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

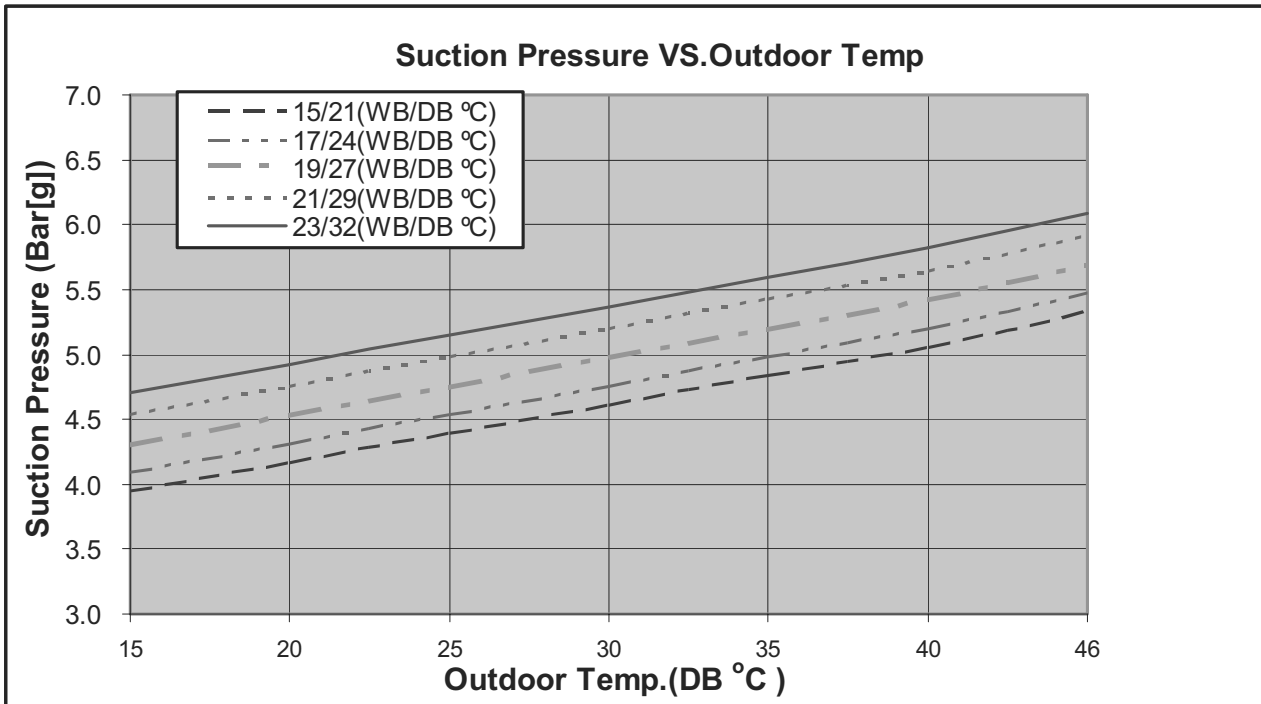
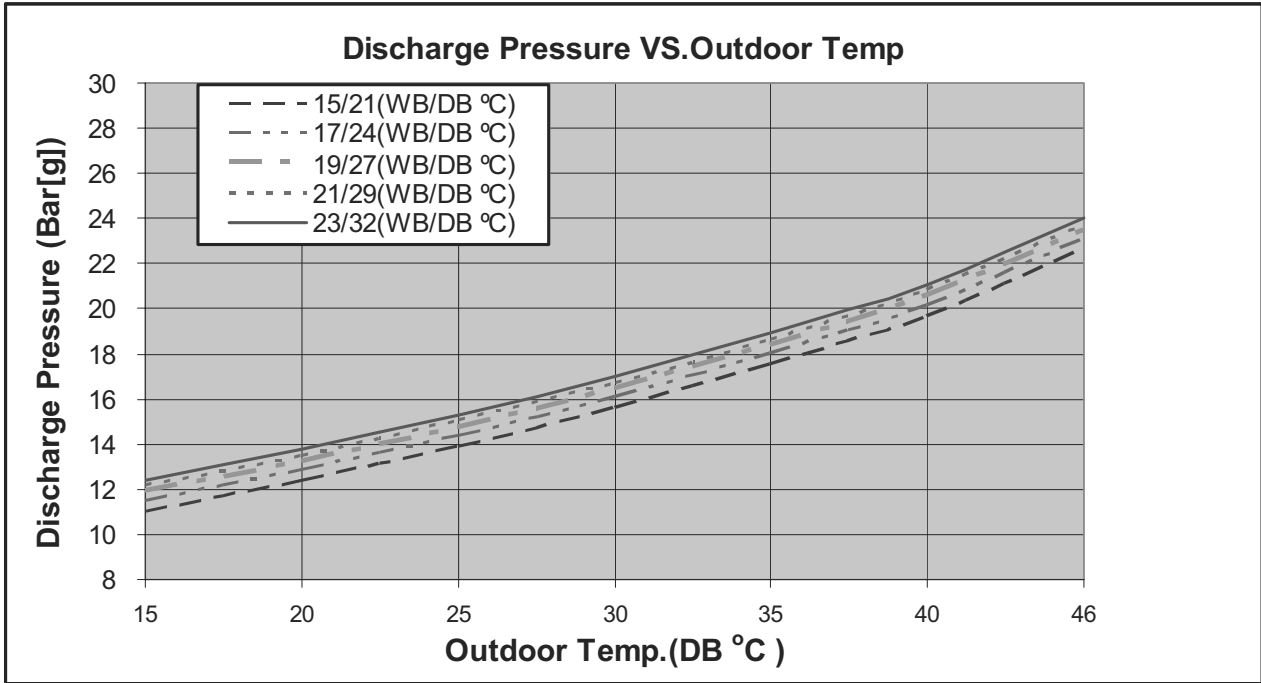
5.56.2 Heating

TOTAL TUBING LENGTH								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.985	0.955	---	---	---	---	---

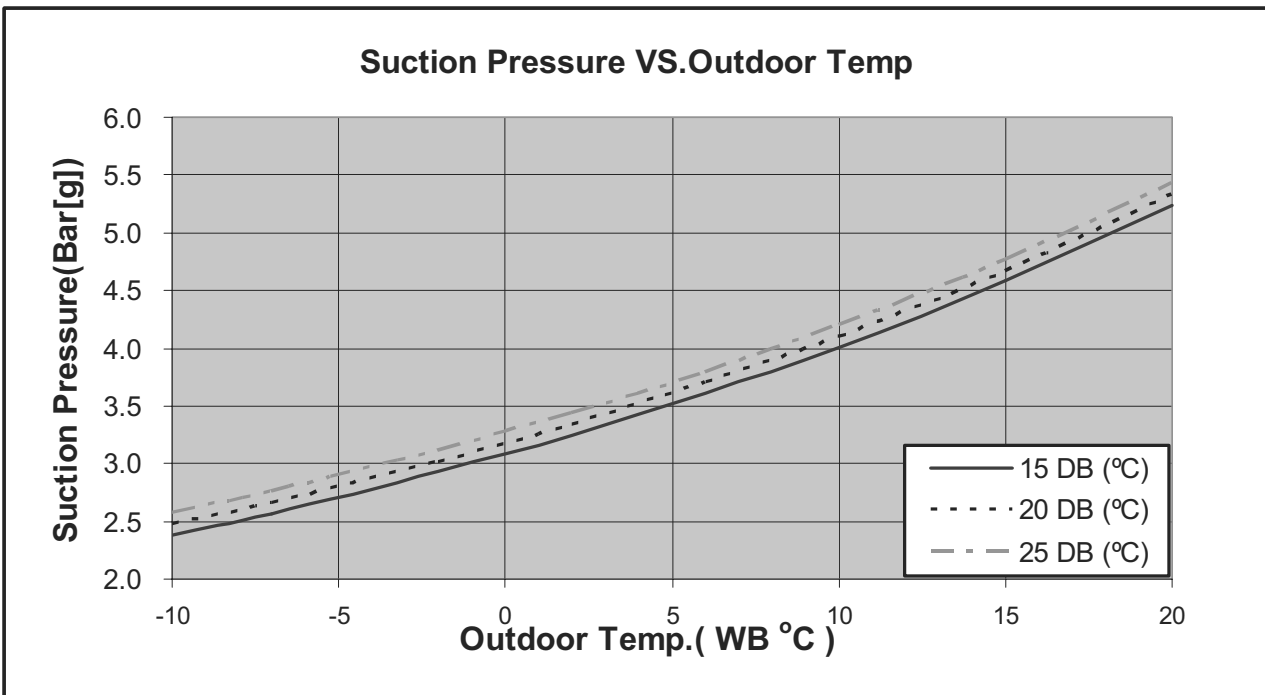
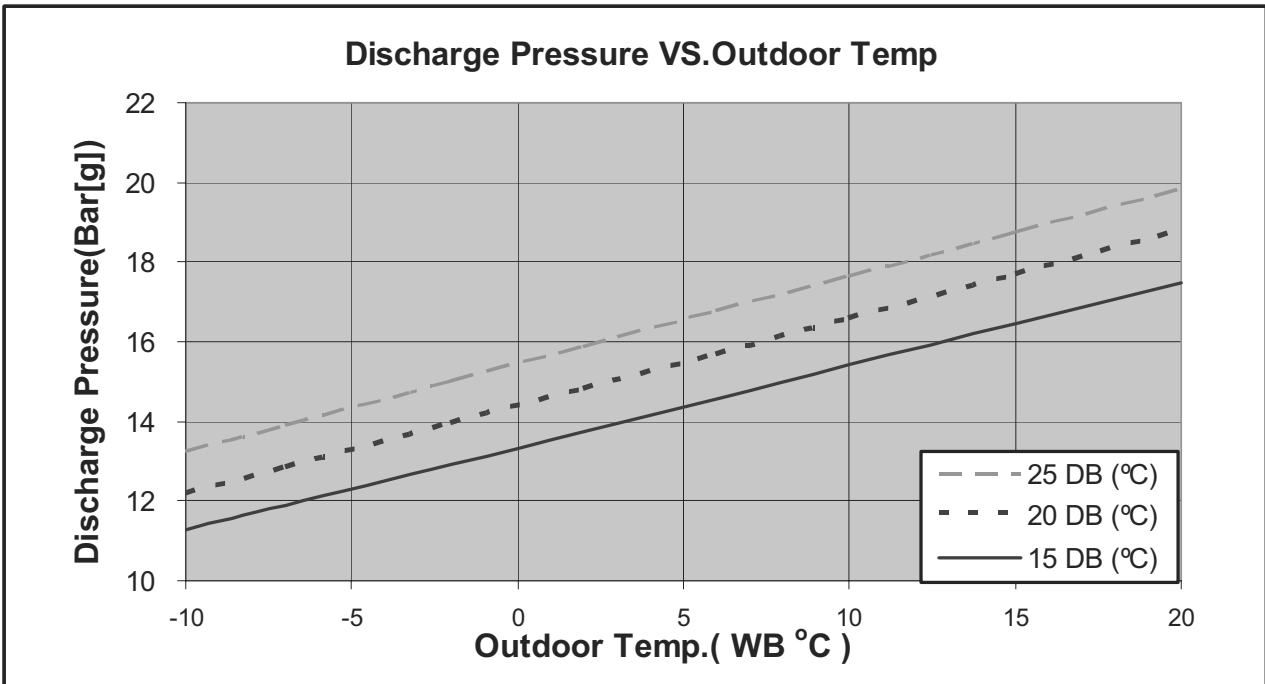
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.57 Pressure Curves.

5.57.1 Cooling.



5.57.2 Heating.



5.58 WNG9 GCN9 R22

5.58.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.95	3.06	3.13	3.20	3.25
	SC	1.90	1.98	2.06	2.11	2.15
	PI	0.70	0.70	0.70	0.71	0.71
20 ⁽¹⁾	TC	2.86	3.01	3.10	3.18	3.25
	SC	1.86	1.96	2.05	2.10	2.14
	PI	0.76	0.76	0.77	0.77	0.77
25	TC	2.70	2.92	3.07	3.16	3.24
	SC	1.81	1.93	2.03	2.09	2.13
	PI	0.82	0.83	0.83	0.84	0.85
30	TC	2.53	2.75	2.97	3.08	3.17
	SC	1.76	1.87	1.99	2.04	2.08
	PI	0.89	0.90	0.91	0.92	0.92
35	TC	2.34	2.54	2.80	2.94	3.08
	SC	1.67	1.79	1.94	2.00	2.04
	PI	0.96	0.97	0.99	1.00	1.00
40	TC	2.13	2.32	2.53	2.76	2.90
	SC	1.57	1.70	1.84	1.89	1.93
	PI	1.03	1.05	1.07	1.08	1.09
46	TC	1.85	2.02	2.22	2.45	2.64
	SC	1.45	1.55	1.67	1.73	1.77
	PI	1.13	1.15	1.17	1.19	1.20

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.58.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OD COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.49	0.74	1.43	0.78	1.37	0.82
-7	1.60	0.75	1.54	0.80	1.49	0.84
-2	1.70	0.76	1.64	0.81	1.58	0.86
2	2.07	0.80	1.98	0.85	1.90	0.90
6	2.91	0.86	2.83	0.92	2.73	0.98
10	3.17	0.91	3.08	0.97	3.00	1.04
15	3.42	0.95	3.34	1.02	3.25	1.09
20	3.61	0.98	3.52	1.06	3.42	1.14

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.59 Capacity Correction Factor Due to Tubing Length

5.59.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.971	0.949	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

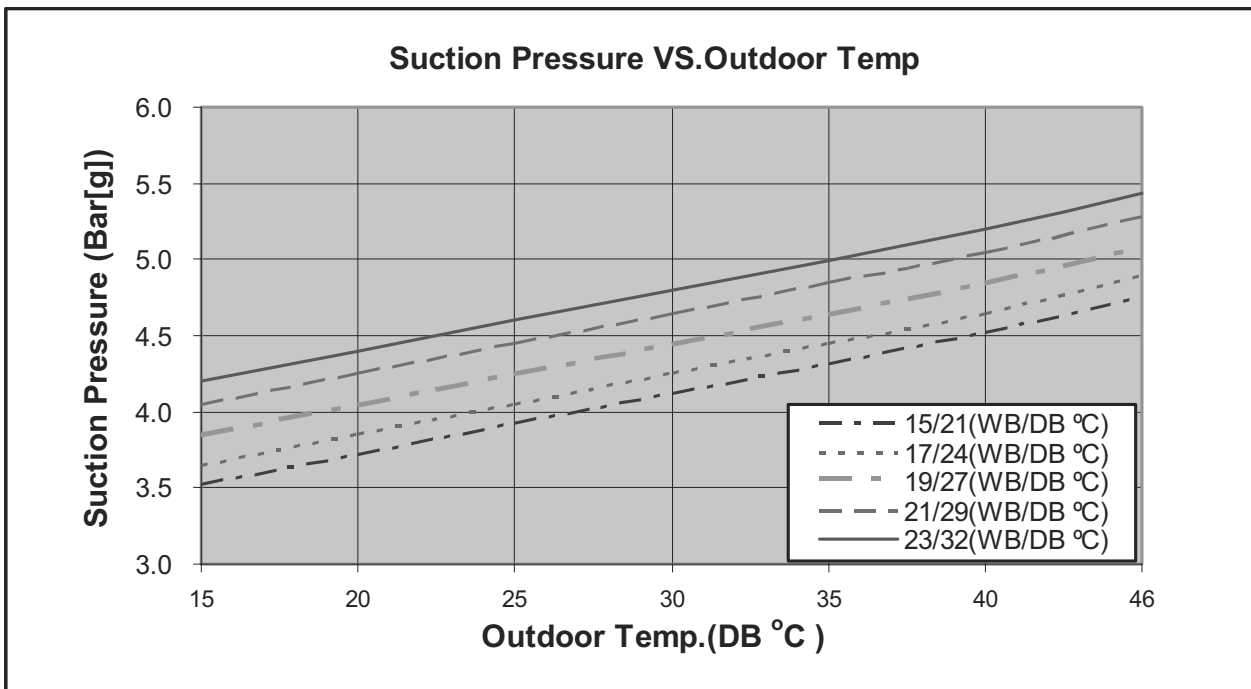
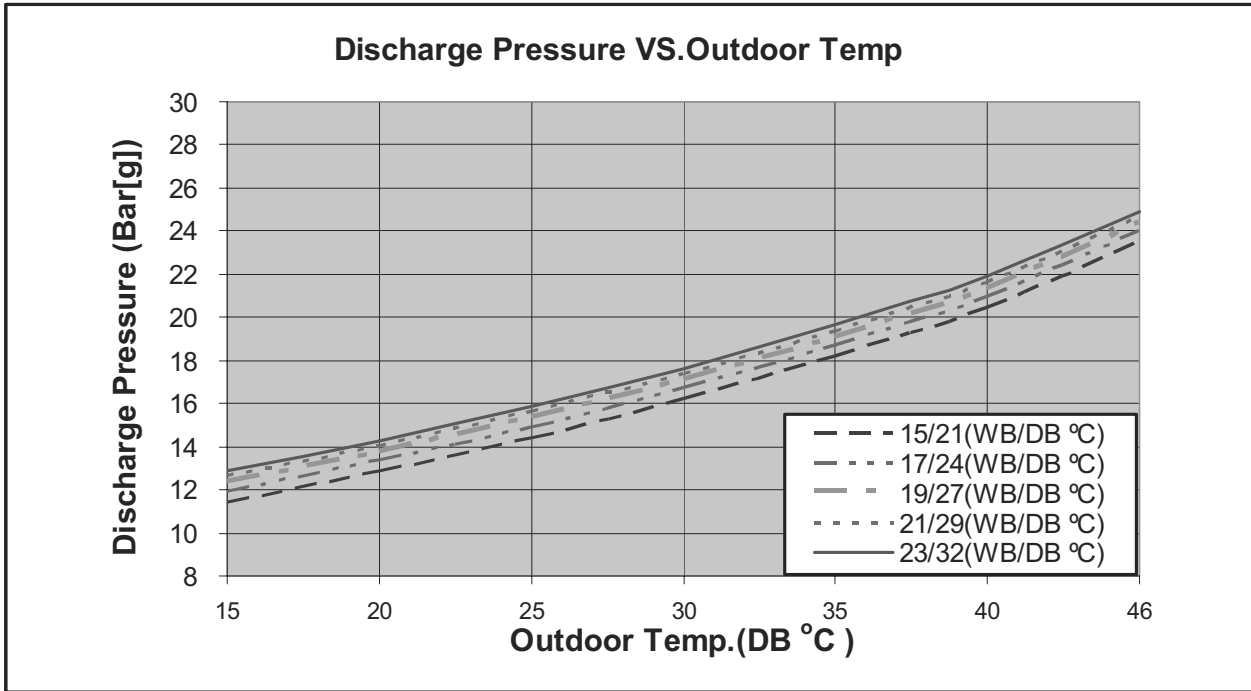
5.59.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.973	0.961	---	---	---	---	---

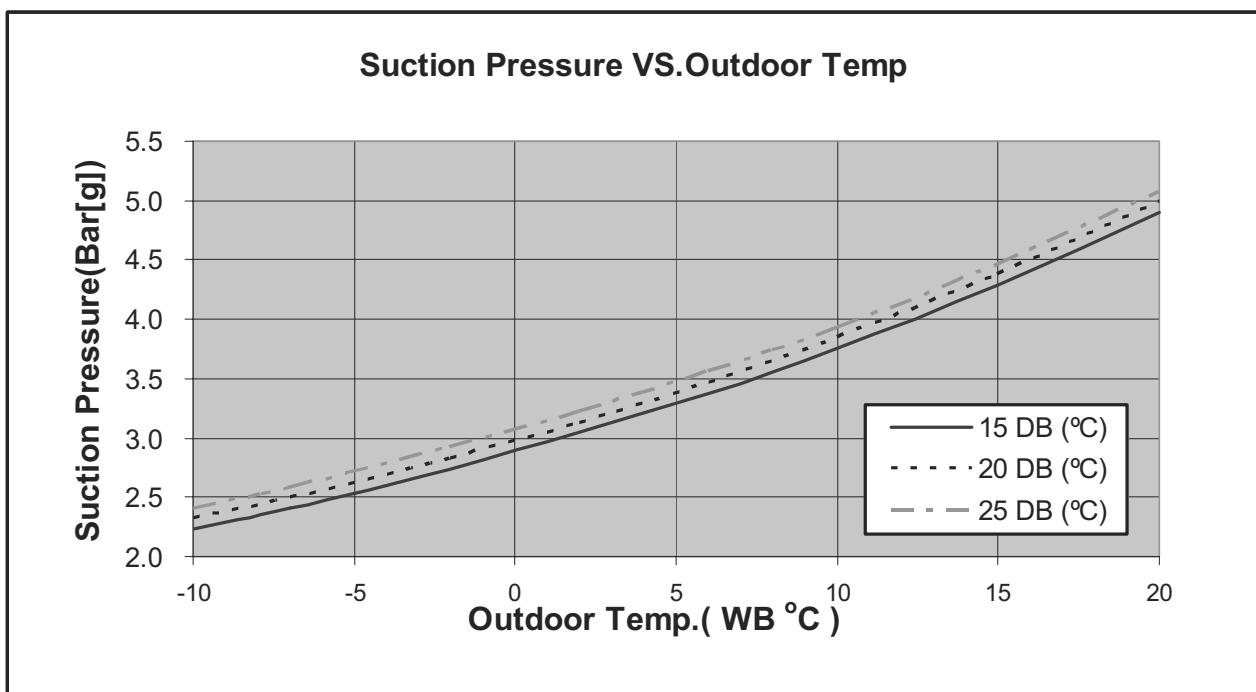
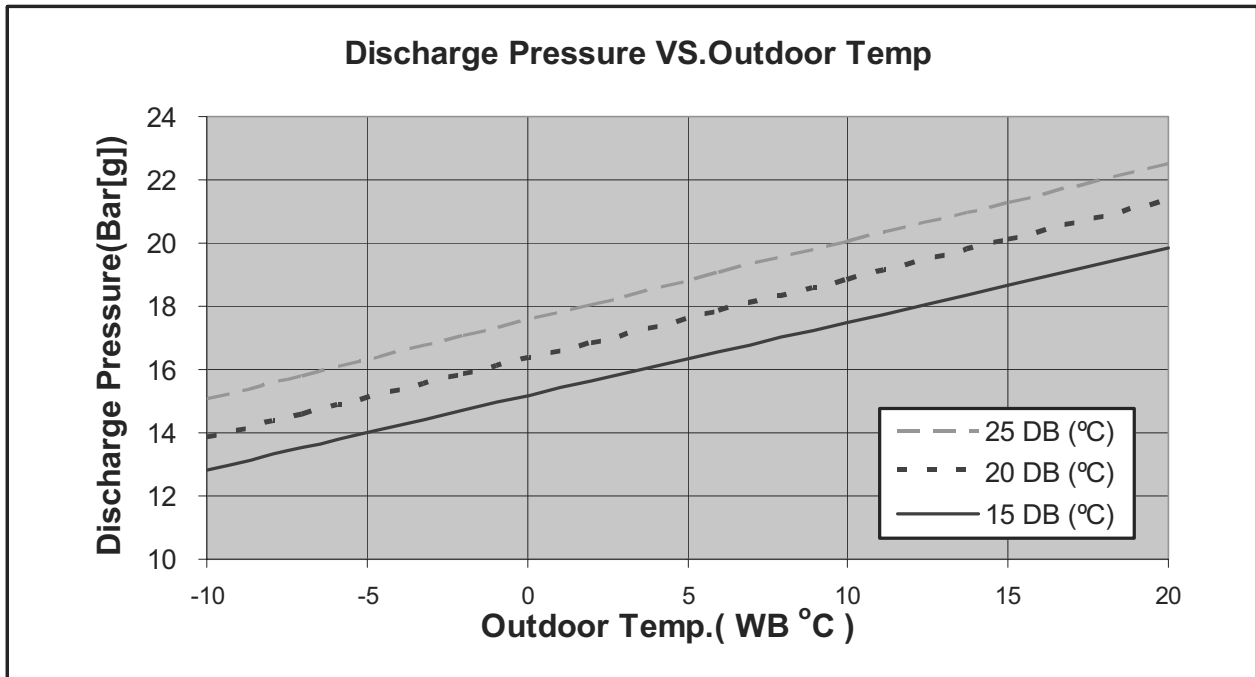
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.60 Pressure Curves.

5.60.1 Cooling.



5.60.2 Heating.



5.61 WNG12 GCN12 R22

5.61.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	3.79	3.93	4.02	4.12	4.18
	SC	2.29	2.39	2.48	2.54	2.59
	PI	0.89	0.89	0.89	0.89	0.90
20 ⁽¹⁾	TC	3.67	3.87	3.99	4.09	4.17
	SC	2.25	2.37	2.47	2.54	2.58
	PI	0.96	0.97	0.97	0.97	0.98
25	TC	3.47	3.75	3.94	4.06	4.16
	SC	2.19	2.32	2.45	2.52	2.57
	PI	1.04	1.05	1.05	1.06	1.07
30	TC	3.25	3.54	3.82	3.96	4.07
	SC	2.12	2.25	2.40	2.47	2.51
	PI	1.12	1.14	1.15	1.16	1.17
35	TC	3.01	3.26	3.60	3.78	3.96
	SC	2.02	2.16	2.34	2.41	2.45
	PI	1.21	1.23	1.25	1.26	1.27
40	TC	2.73	2.98	3.25	3.55	3.73
	SC	1.90	2.04	2.21	2.28	2.33
	PI	1.31	1.33	1.35	1.36	1.38
46	TC	2.37	2.59	2.85	3.15	3.40
	SC	1.75	1.87	2.02	2.09	2.14
	PI	1.43	1.45	1.48	1.50	1.52

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.61.2 15.46.3 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OD COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.95	1.02	1.88	1.08	1.80	1.14
-7	2.10	1.04	2.03	1.10	1.95	1.16
-2	2.23	1.05	2.16	1.12	2.08	1.18
2	2.72	1.10	2.60	1.17	2.49	1.24
6	3.83	1.19	3.72	1.27	3.59	1.35
10	4.17	1.25	4.05	1.34	3.94	1.43
15	4.50	1.31	4.39	1.41	4.28	1.50
20	4.74	1.35	4.63	1.46	4.50	1.57

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.62 Capacity Correction Factor Due to Tubing Length

5.62.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.98	0.94	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

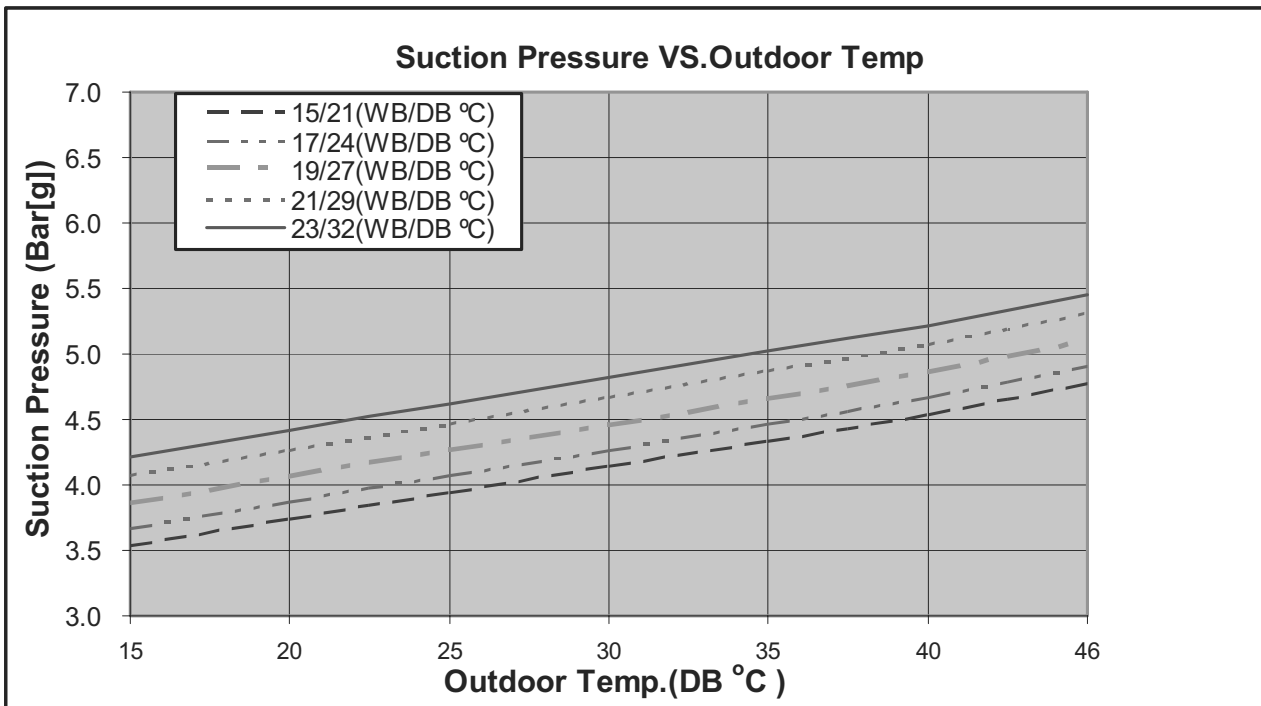
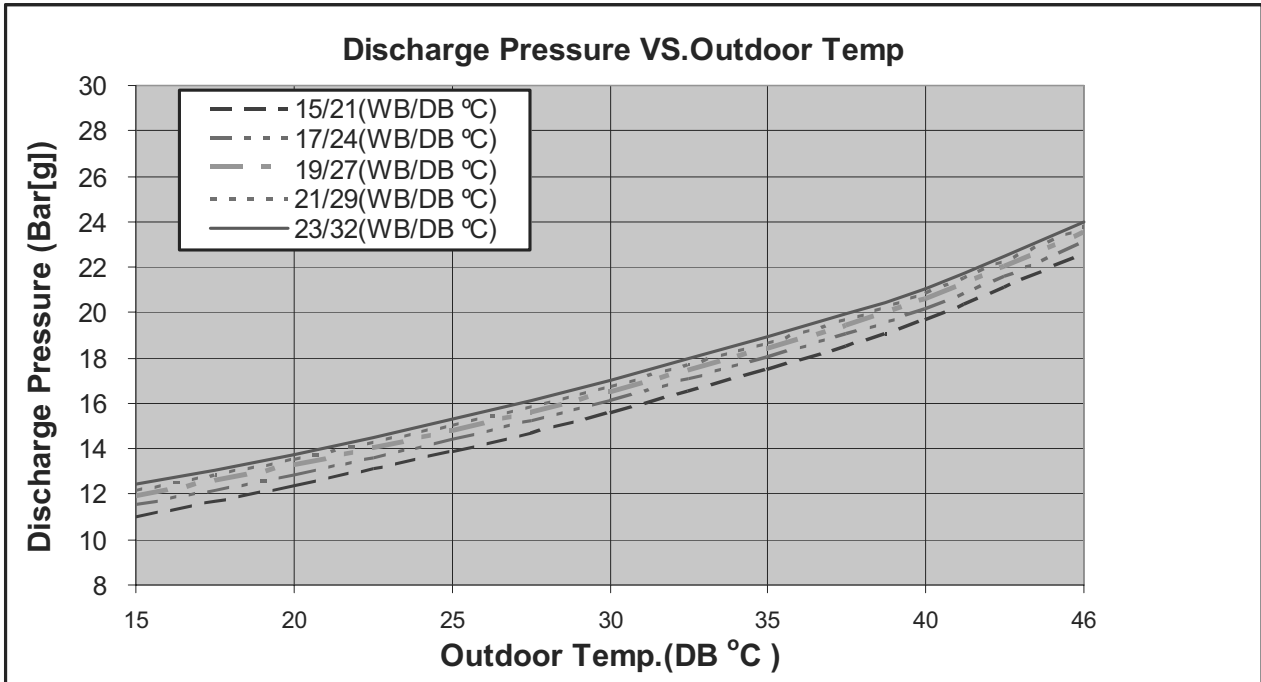
5.62.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.994	0.982	---	---	---	---	---

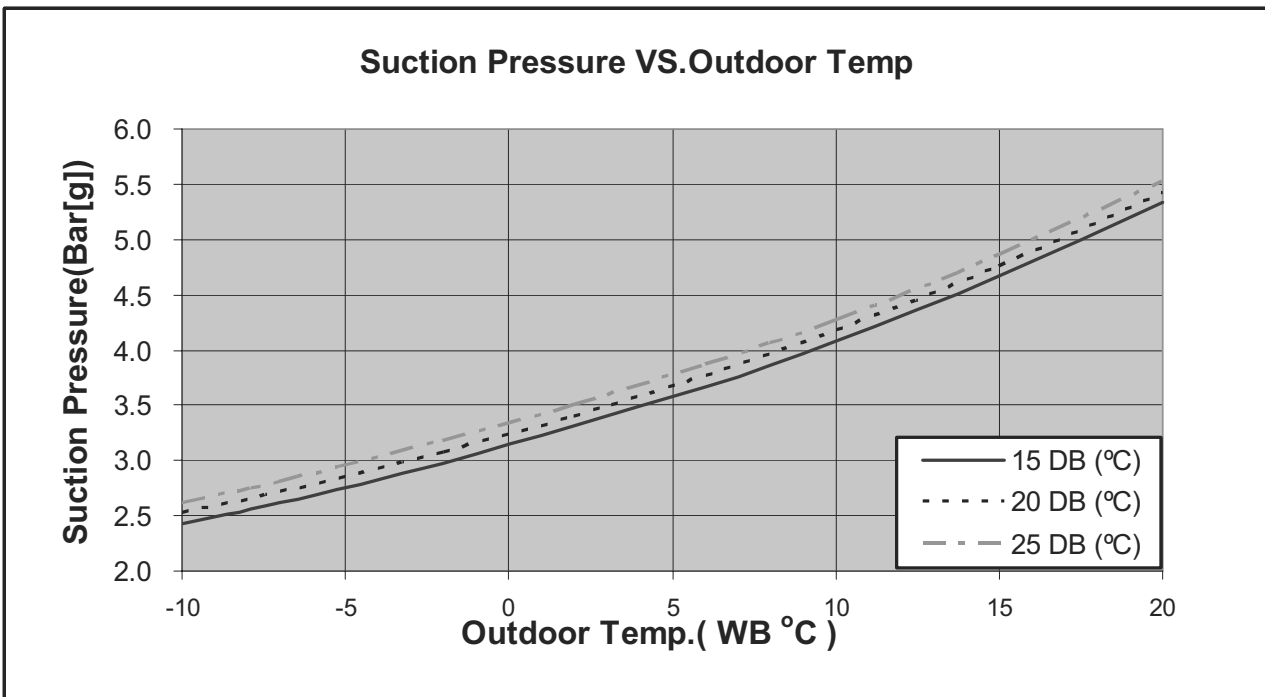
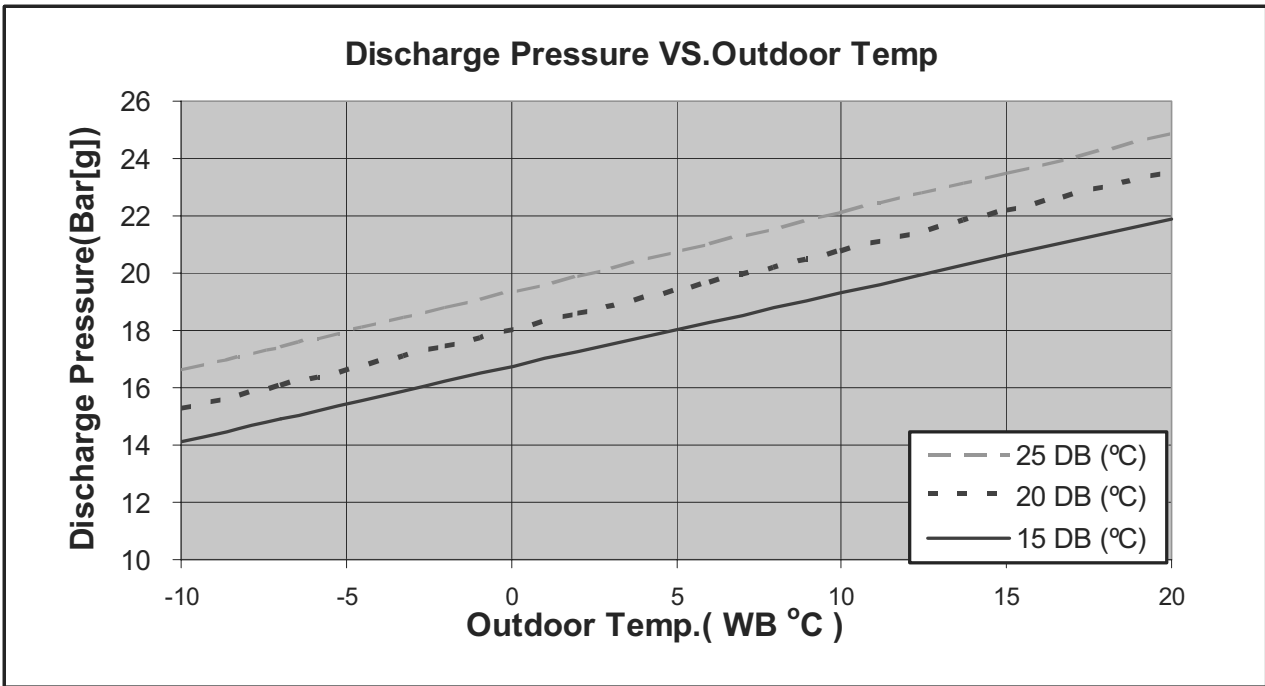
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.63 Pressure Curves.

5.63.1 Cooling.



5.63.2 Heating.



5.64 WNG14 GCN14 R22

5.64.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	4.34	4.50	4.60	4.71	4.78
	SC	2.64	2.76	2.86	2.94	2.99
	PI	1.17	1.17	1.17	1.18	1.18
20 ⁽¹⁾	TC	4.20	4.43	4.57	4.68	4.78
	SC	2.59	2.73	2.85	2.93	2.98
	PI	1.27	1.27	1.28	1.29	1.29
25	TC	3.98	4.29	4.51	4.65	4.76
	SC	2.53	2.68	2.83	2.91	2.96
	PI	1.37	1.38	1.39	1.40	1.41
30	TC	3.72	4.05	4.37	4.53	4.66
	SC	2.45	2.60	2.76	2.84	2.90
	PI	1.48	1.50	1.52	1.53	1.54
35	TC	3.44	3.73	4.12	4.33	4.53
	SC	2.33	2.49	2.70	2.78	2.83
	PI	1.60	1.62	1.65	1.66	1.67
40	TC	3.13	3.41	3.72	4.07	4.27
	SC	2.19	2.36	2.55	2.64	2.69
	PI	1.72	1.75	1.78	1.80	1.82
46	TC	2.72	2.97	3.27	3.61	3.89
	SC	2.02	2.16	2.33	2.41	2.46
	PI	1.88	1.91	1.95	1.98	2.00

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.64.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.49	1.35	2.40	1.44	2.30	1.51
-7	2.68	1.39	2.59	1.46	2.49	1.54
-2	2.85	1.40	2.76	1.49	2.66	1.57
2	3.47	1.47	3.33	1.56	3.18	1.66
6	4.89	1.58	4.75	1.69	4.58	1.79
10	5.32	1.67	5.18	1.78	5.04	1.91
15	5.75	1.74	5.61	1.88	5.46	1.99
20	6.06	1.79	5.91	1.94	5.75	2.10

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.65 Capacity Correction Factor Due to Tubing Length

5.65.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.978	0.935	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

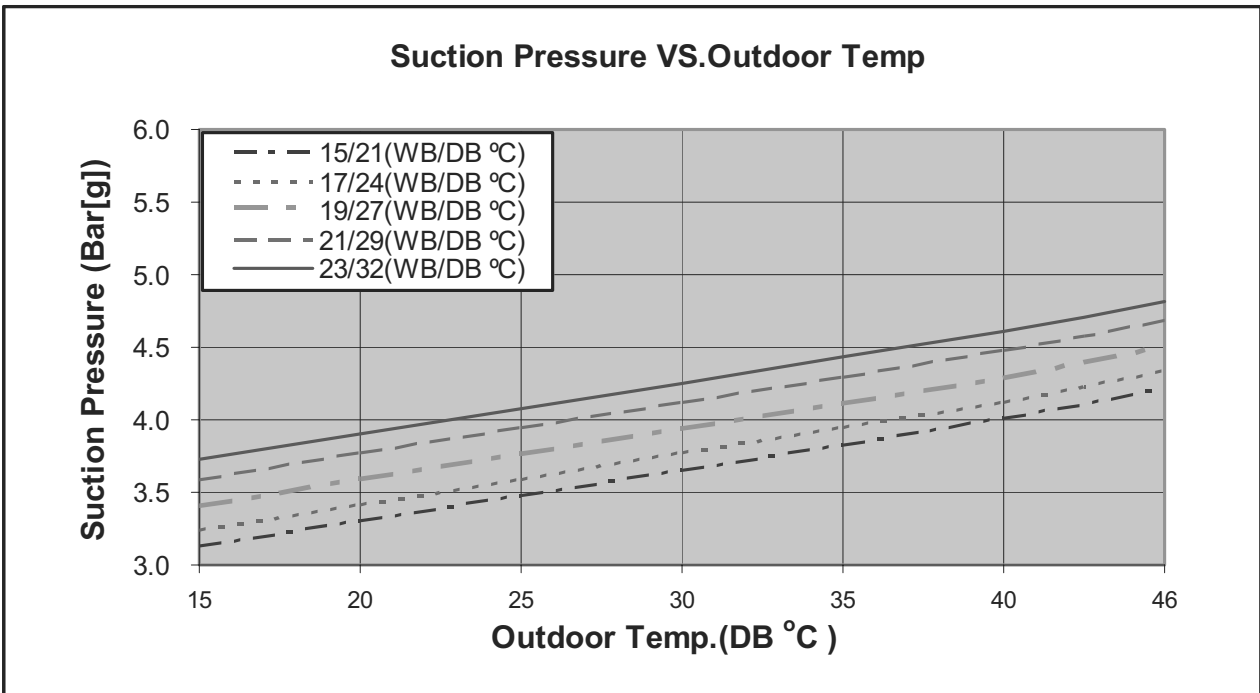
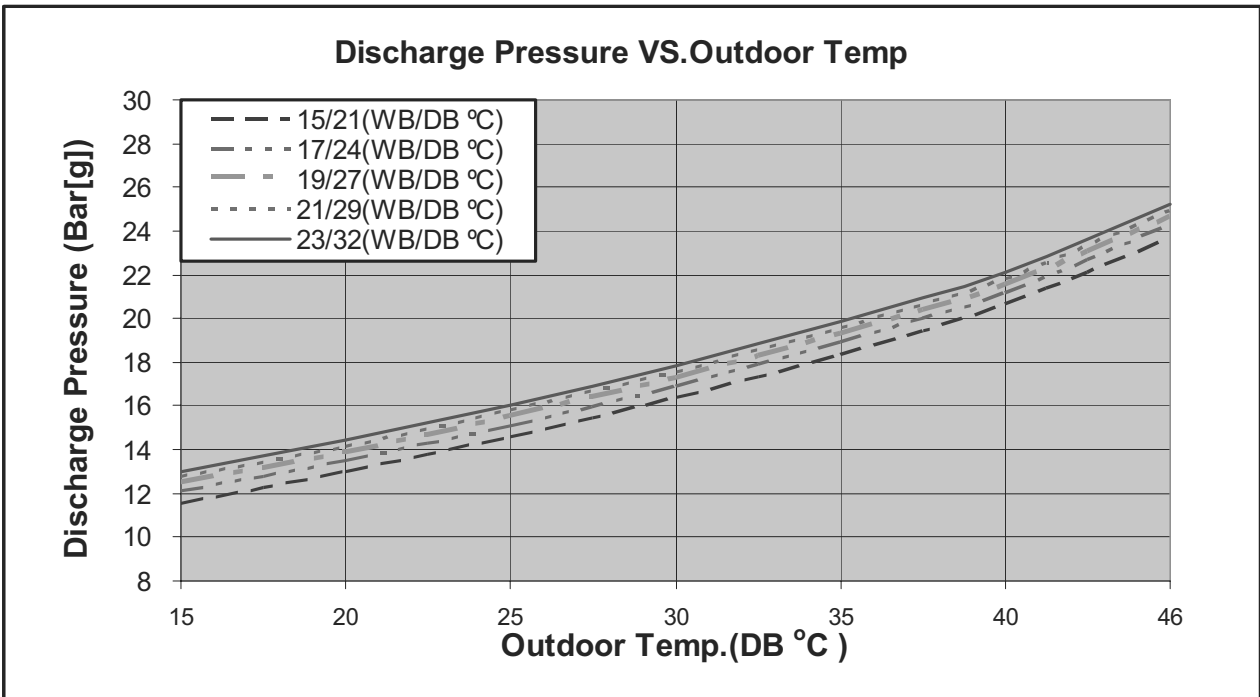
5.65.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.990	0.970	---	---	---	---	---

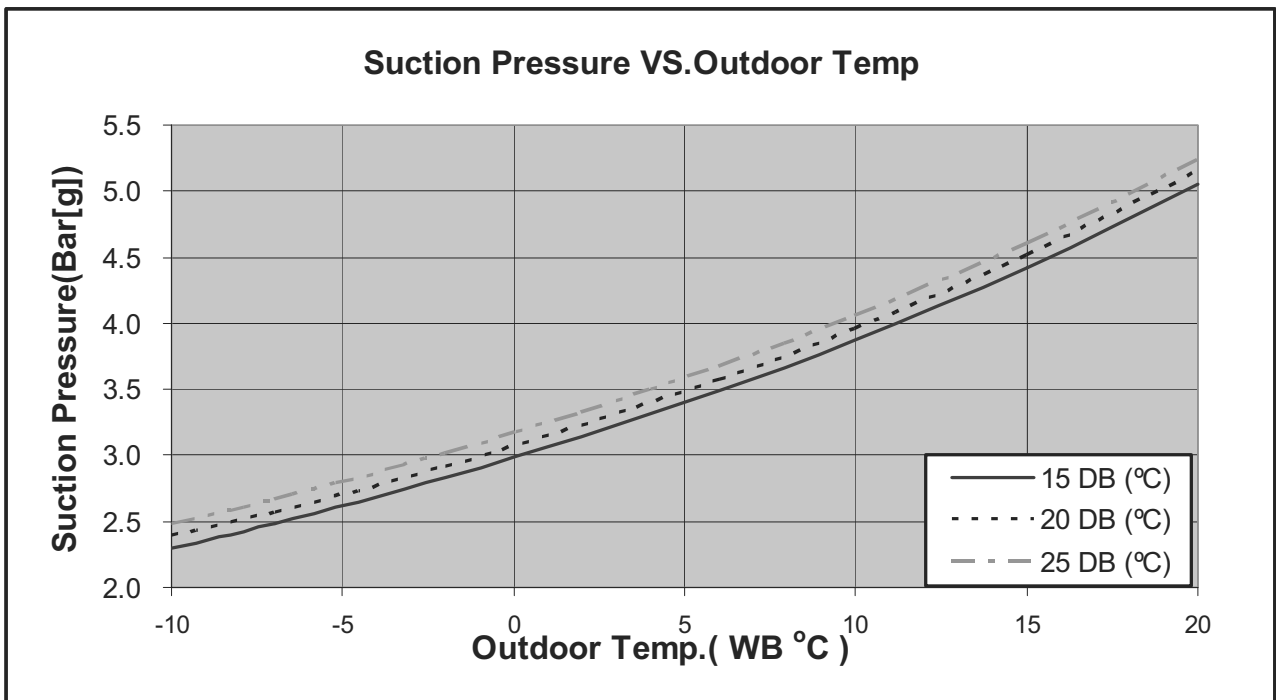
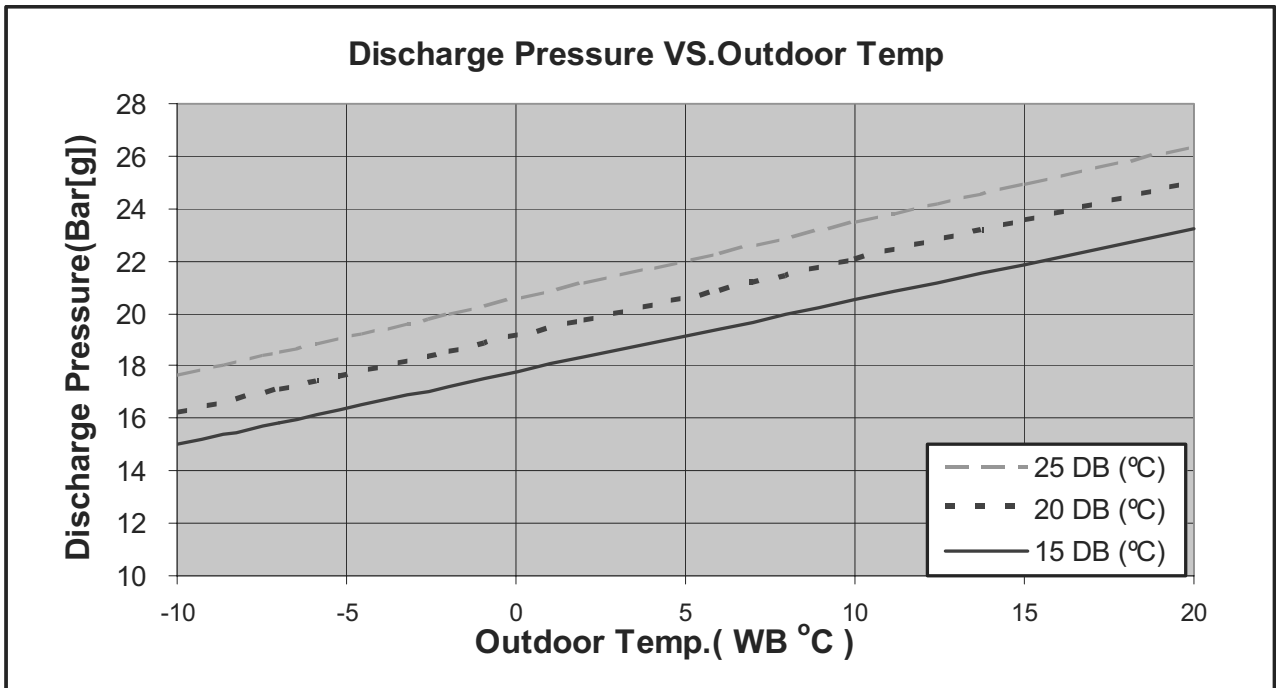
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.66 Pressure Curves.

5.66.1 Cooling.



5.66.2 Heating.



5.67 WNG9 ONG9 R22

5.67.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	2.99	3.10	3.17	3.25	3.30
	SC	1.93	2.01	2.09	2.14	2.18
	PI	0.66	0.66	0.66	0.66	0.67
20 ⁽¹⁾	TC	2.90	3.05	3.15	3.22	3.29
	SC	1.89	1.99	2.08	2.14	2.18
	PI	0.72	0.72	0.72	0.72	0.73
25	TC	2.74	2.96	3.11	3.20	3.28
	SC	1.84	1.95	2.06	2.12	2.16
	PI	0.77	0.78	0.78	0.79	0.79
30	TC	2.56	2.79	3.01	3.12	3.21
	SC	1.78	1.90	2.02	2.08	2.11
	PI	0.83	0.85	0.85	0.86	0.87
35	TC	2.37	2.57	2.84	2.98	3.12
	SC	1.70	1.82	1.97	2.03	2.07
	PI	0.90	0.92	0.93	0.94	0.94
40	TC	2.16	2.35	2.56	2.80	2.95
	SC	1.60	1.72	1.86	1.92	1.96
	PI	0.97	0.99	1.00	1.02	1.03
46	TC	1.87	2.05	2.25	2.49	2.68
	SC	1.47	1.58	1.70	1.76	1.80
	PI	1.06	1.08	1.10	1.12	1.13

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.67.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.52	0.72	1.46	0.77	1.41	0.81
-7	1.64	0.74	1.58	0.78	1.52	0.82
-2	1.74	0.75	1.68	0.79	1.62	0.84
2	2.12	0.78	2.03	0.83	1.94	0.88
6	2.99	0.84	2.90	0.90	2.80	0.96
10	3.25	0.89	3.16	0.95	3.07	1.02
15	3.51	0.93	3.42	1.00	3.34	1.06
20	3.70	0.95	3.61	1.04	3.51	1.12

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.68 Capacity Correction Factor Due to Tubing Length

5.68.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.973	0.95	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

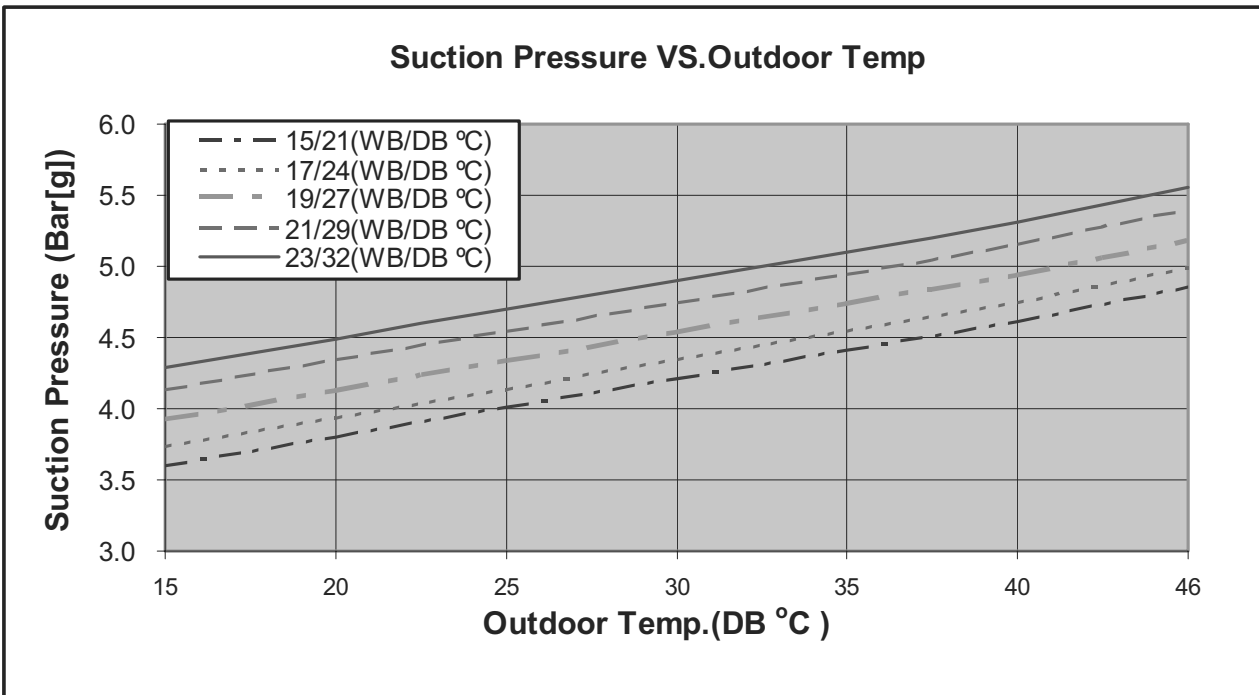
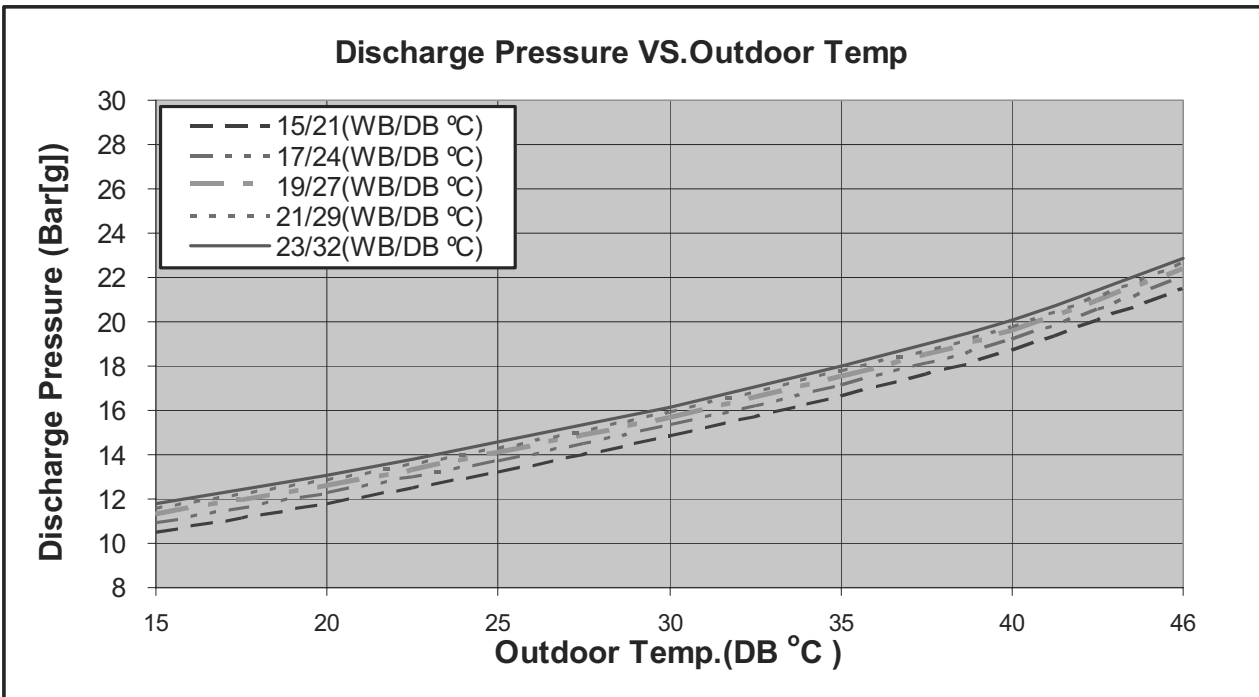
5.68.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.974	0.954	---	---	---	---	---

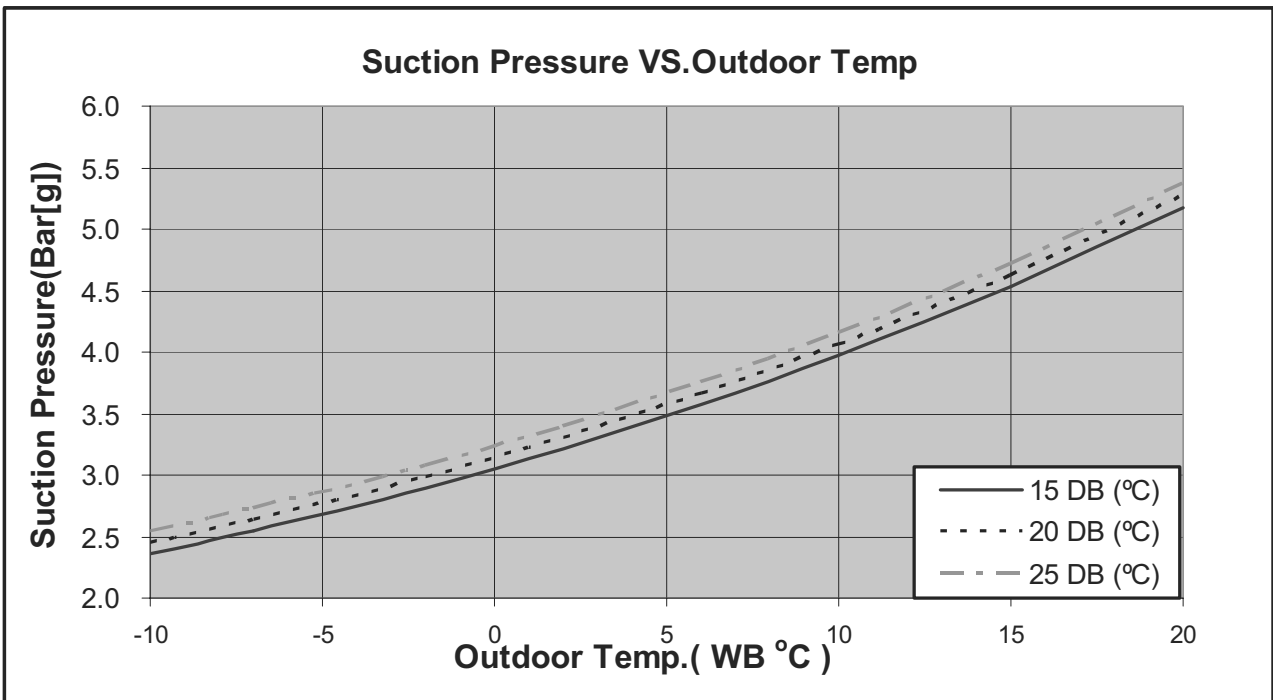
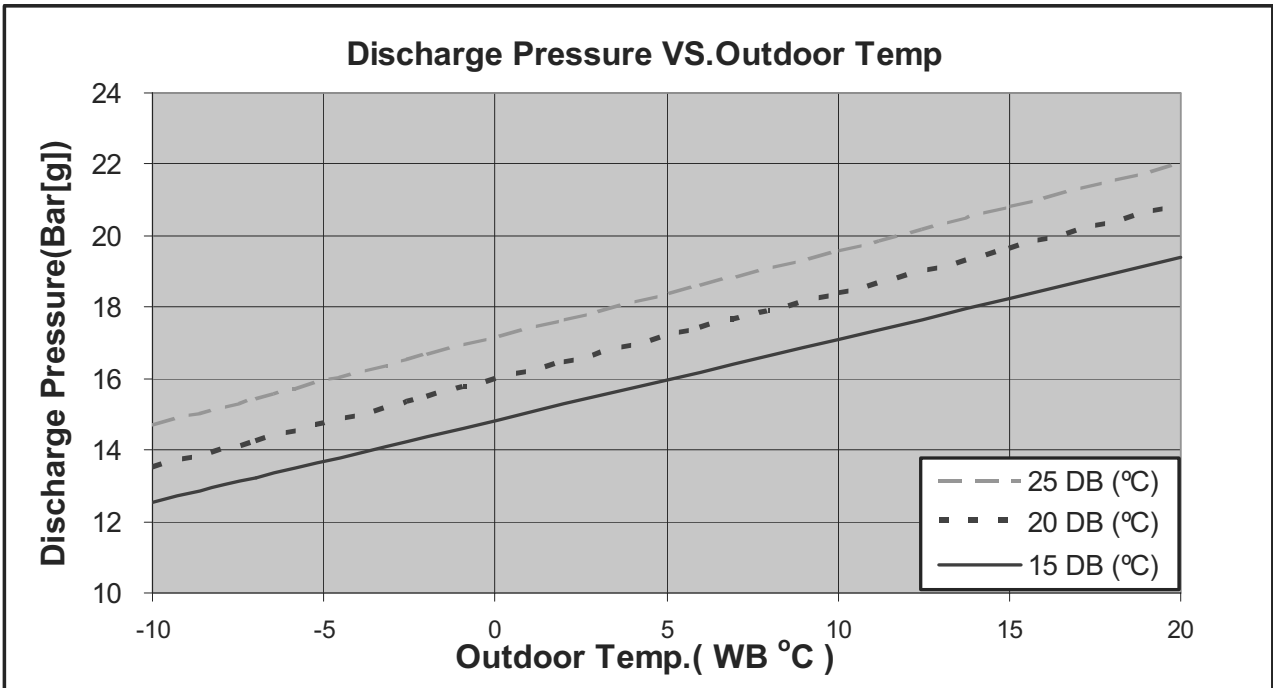
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.69 Pressure Curves.

5.69.1 Cooling.



5.69.2 Heating.



5.70 WNG12 ONG12 R22

5.70.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL (°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	3.79	3.93	4.02	4.12	4.18
	SC	2.31	2.41	2.50	2.57	2.61
	PI	0.87	0.87	0.88	0.88	0.88
20 ⁽¹⁾	TC	3.67	3.87	3.99	4.09	4.17
	SC	2.27	2.39	2.49	2.56	2.61
	PI	0.95	0.95	0.95	0.96	0.96
25	TC	3.47	3.75	3.94	4.06	4.16
	SC	2.21	2.34	2.47	2.54	2.59
	PI	1.02	1.03	1.04	1.04	1.05
30	TC	3.25	3.54	3.82	3.96	4.07
	SC	2.14	2.27	2.42	2.49	2.53
	PI	1.10	1.12	1.13	1.14	1.15
35	TC	3.01	3.26	3.60	3.78	3.96
	SC	2.03	2.18	2.36	2.43	2.48
	PI	1.19	1.21	1.23	1.24	1.25
40	TC	2.73	2.98	3.25	3.55	3.73
	SC	1.92	2.06	2.23	2.30	2.35
	PI	1.28	1.30	1.33	1.34	1.36
46	TC	2.37	2.59	2.85	3.15	3.40
	SC	1.76	1.89	2.04	2.11	2.15
	PI	1.40	1.42	1.46	1.48	1.49

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.69.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	1.95	0.98	1.88	1.05	1.80	1.10
-7	2.10	1.01	2.03	1.06	1.95	1.12
-2	2.23	1.02	2.16	1.08	2.08	1.14
2	2.72	1.07	2.60	1.14	2.49	1.21
6	3.83	1.15	3.72	1.23	3.59	1.31
10	4.17	1.21	4.05	1.30	3.94	1.39
15	4.50	1.27	4.39	1.37	4.28	1.45
20	4.74	1.30	4.63	1.41	4.50	1.53

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.70 Capacity Correction Factor Due to Tubing Length

5.70.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.961	0.949	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

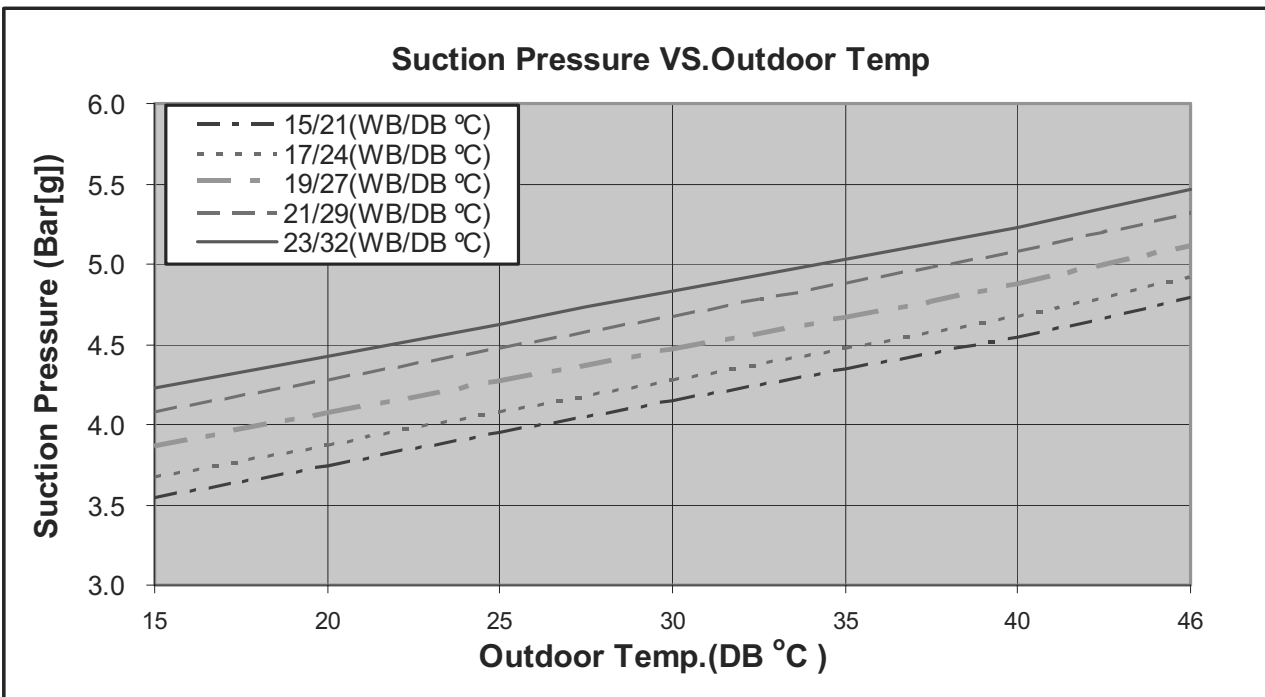
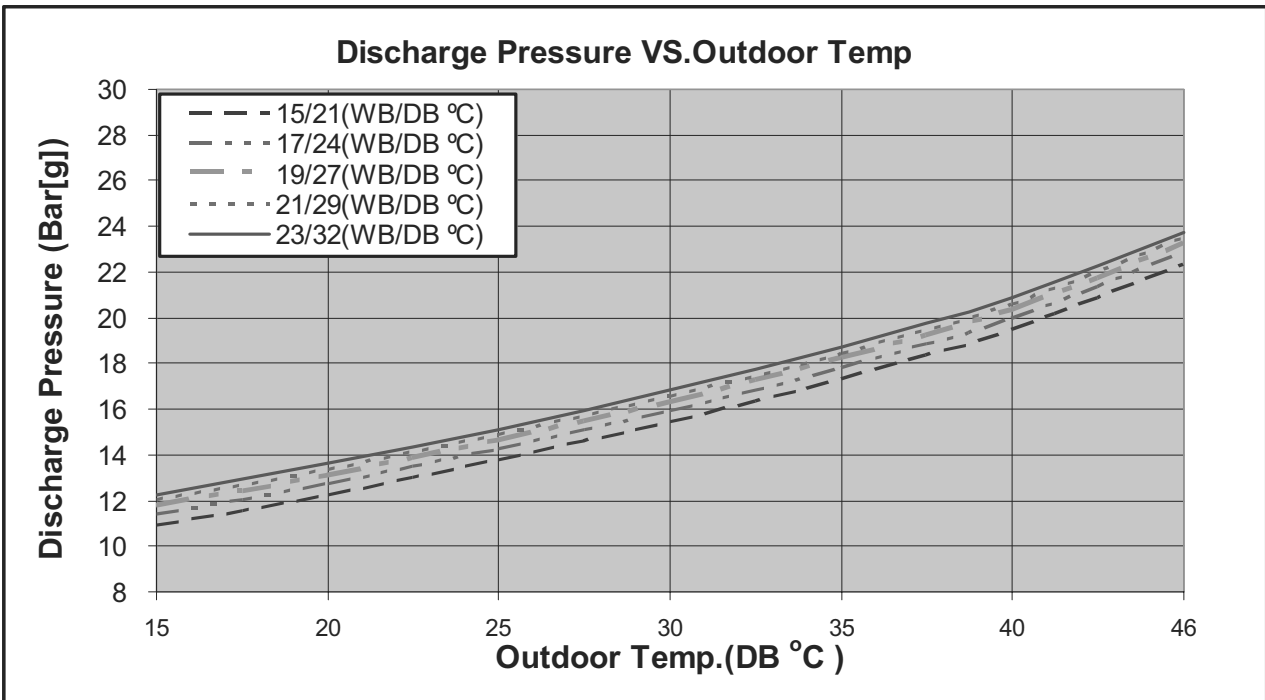
5.70.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.05	1	0.975	0.962	---	---	---	---	---

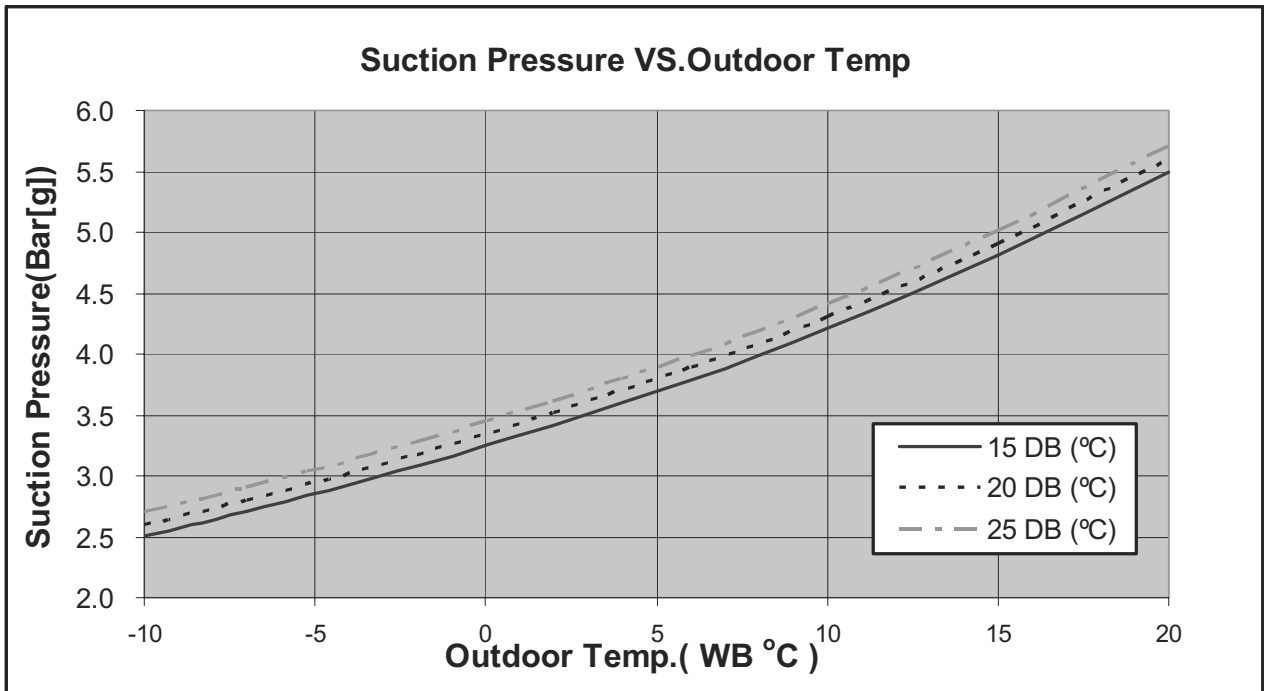
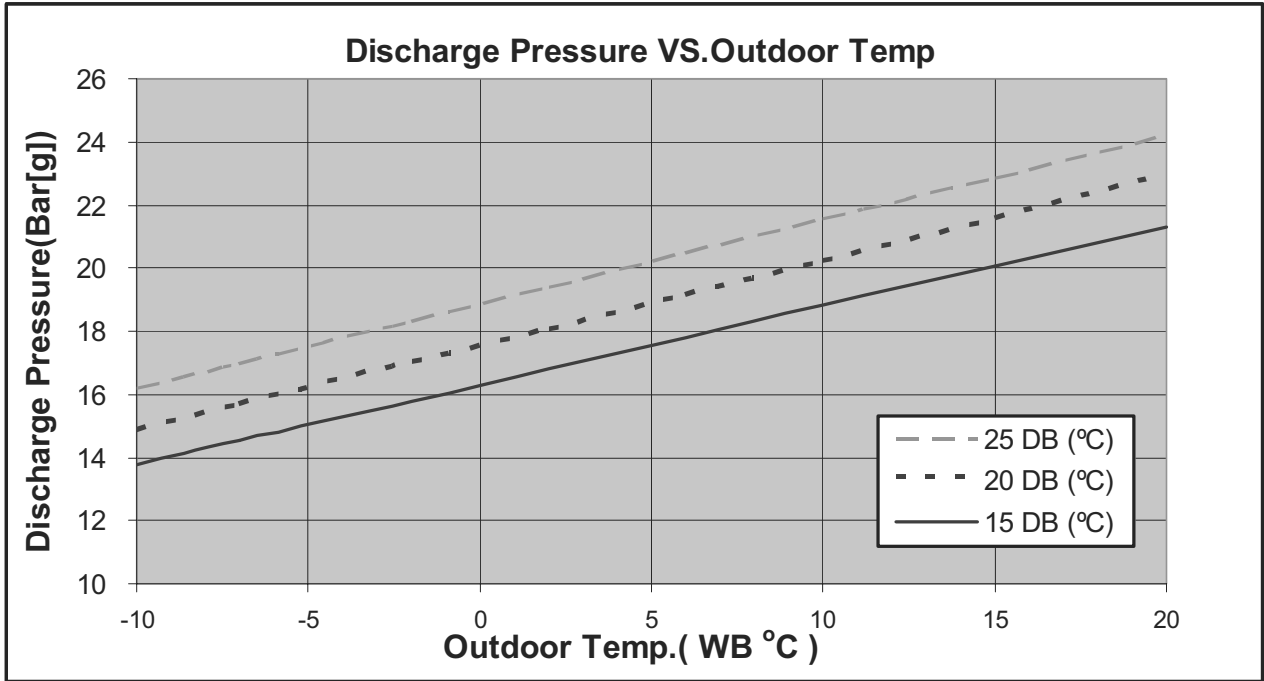
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.71 Pressure Curves.

5.71.1 Cooling.



5.71.2 Heating.



5.72 WNG14 ONG14 R22

5.72.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	4.43	4.58	4.69	4.80	4.88
	SC	2.73	2.85	2.96	3.03	3.09
	PI	1.10	1.10	1.10	1.11	1.11
20 ⁽¹⁾	TC	4.28	4.51	4.66	4.77	4.87
	SC	2.68	2.82	2.94	3.03	3.08
	PI	1.19	1.20	1.20	1.21	1.21
25	TC	4.05	4.38	4.60	4.74	4.85
	SC	2.61	2.77	2.92	3.00	3.06
	PI	1.29	1.30	1.31	1.32	1.32
30	TC	3.79	4.13	4.46	4.62	4.75
	SC	2.53	2.69	2.86	2.94	3.00
	PI	1.39	1.41	1.42	1.43	1.45
35	TC	3.51	3.81	4.20	4.41	4.62
	SC	2.40	2.58	2.79	2.87	2.93
	PI	1.50	1.53	1.55	1.56	1.57
40	TC	3.19	3.47	3.79	4.14	4.36
	SC	2.26	2.44	2.64	2.72	2.78
	PI	1.62	1.64	1.67	1.69	1.71
46	TC	2.77	3.03	3.33	3.68	3.96
	SC	2.09	2.24	2.41	2.49	2.55
	PI	1.77	1.79	1.84	1.86	1.88

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.72.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	2.47	1.34	2.37	1.42	2.28	1.49
-7	2.66	1.37	2.56	1.44	2.47	1.52
-2	2.82	1.39	2.73	1.47	2.63	1.55
2	3.43	1.45	3.29	1.54	3.15	1.64
6	4.84	1.56	4.70	1.67	4.54	1.77
10	5.26	1.65	5.12	1.76	4.98	1.88
15	5.69	1.72	5.55	1.85	5.41	1.97
20	5.99	1.77	5.85	1.92	5.69	2.07

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.73 Capacity Correction Factor Due to Tubing Length

5.73.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.979	0.937	---	---	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

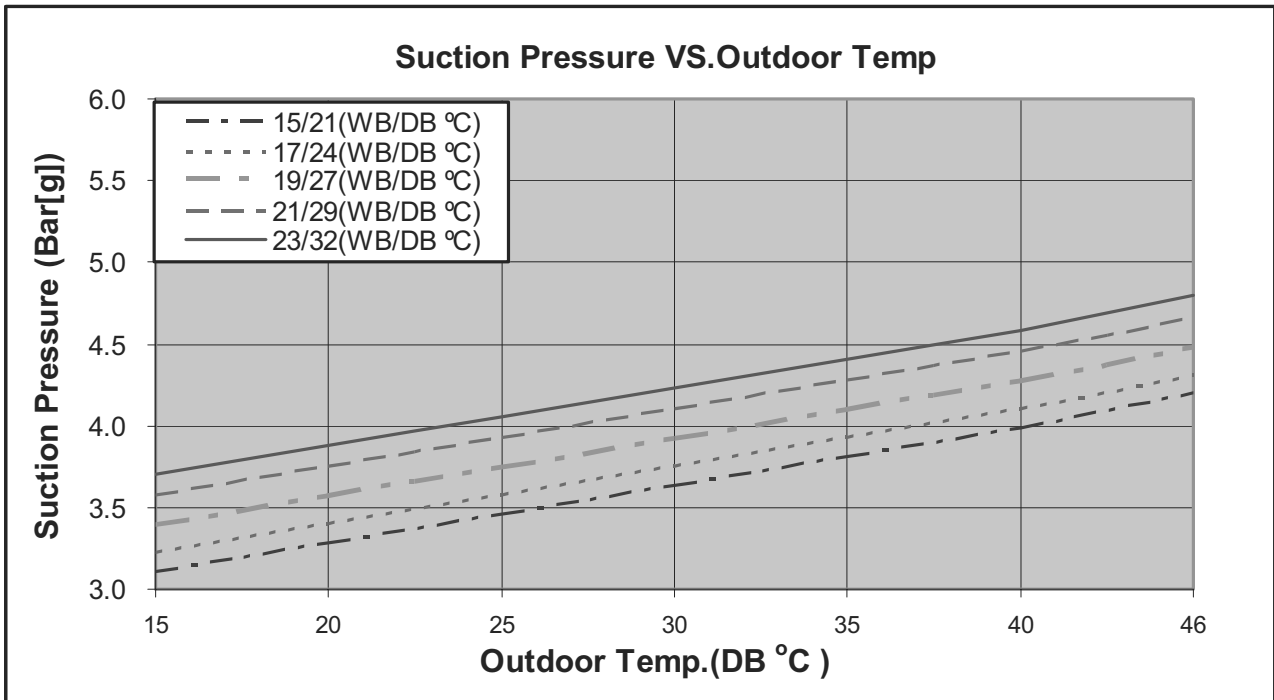
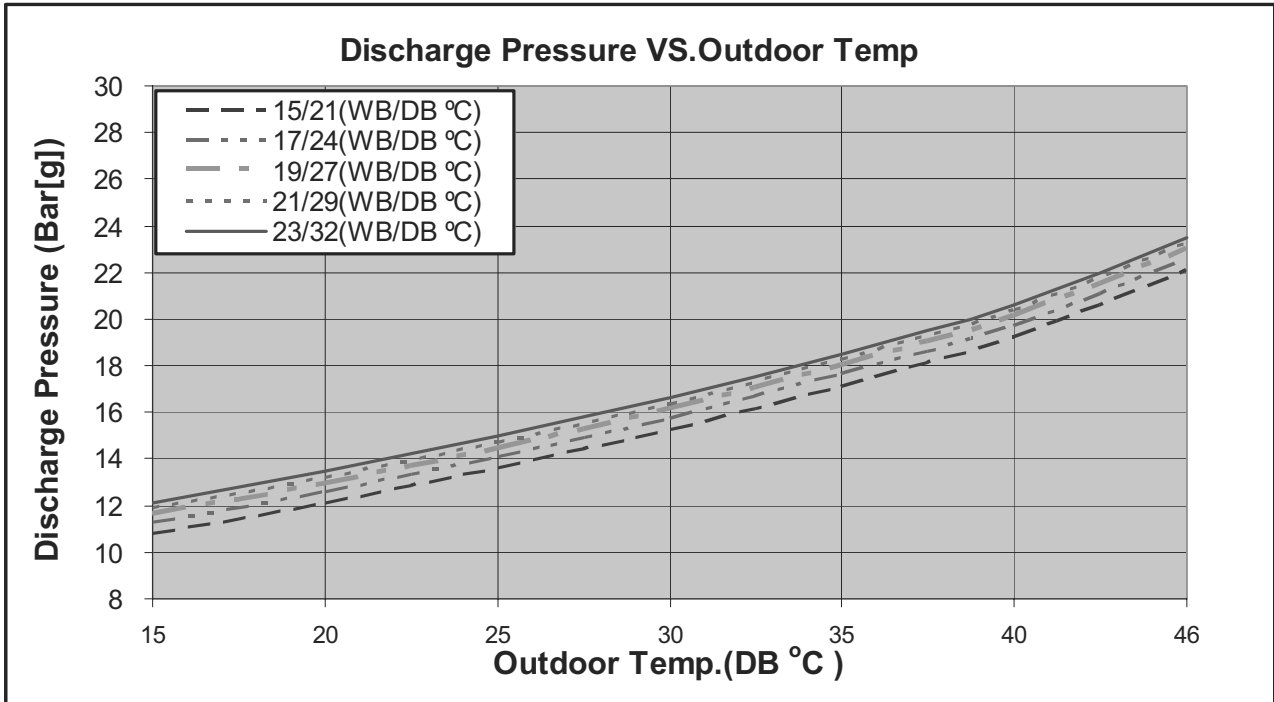
5.73.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.991	0.968	---	---	---	---	---

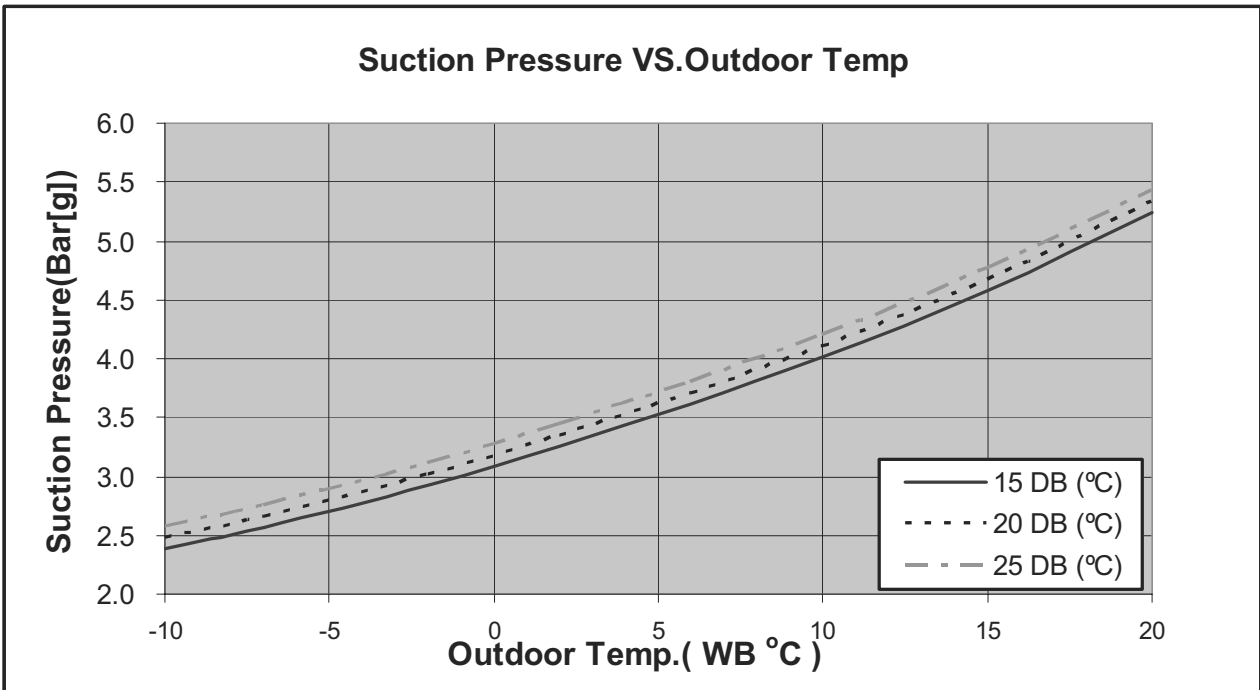
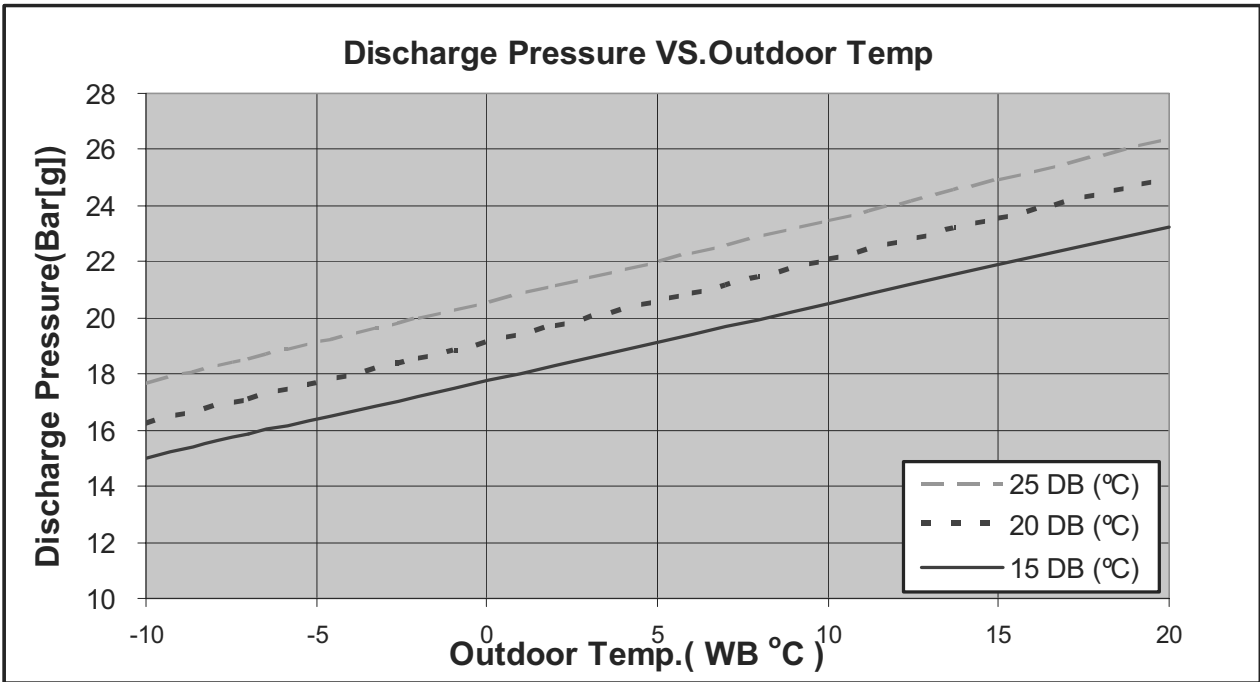
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.74 Pressure Curves.

5.74.1 Cooling.



5.74.2 Heating.



5.75 WNG25 GC24 R22

5.75.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	7.38	7.64	7.82	8.01	8.13
	SC	4.85	5.06	5.25	5.38	5.48
	PI	1.78	1.78	1.79	1.79	1.80
20 ⁽¹⁾	TC	7.14	7.52	7.76	7.94	8.12
	SC	4.75	5.01	5.22	5.37	5.47
	PI	1.93	1.94	1.94	1.96	1.96
25	TC	6.75	7.29	7.67	7.90	8.09
	SC	4.63	4.91	5.18	5.33	5.43
	PI	2.09	2.10	2.12	2.13	2.14
30	TC	6.32	6.88	7.43	7.69	7.92
	SC	4.48	4.77	5.07	5.22	5.31
	PI	2.25	2.29	2.30	2.32	2.34
35	TC	5.85	6.35	7.00	7.35	7.70
	SC	4.26	4.57	4.95	5.09	5.19
	PI	2.43	2.47	2.51	2.53	2.54
40	TC	5.32	5.79	6.32	6.91	7.26
	SC	4.02	4.33	4.68	4.83	4.93
	PI	2.62	2.66	2.71	2.74	2.77
46	TC	4.61	5.04	5.55	6.13	6.60
	SC	3.70	3.97	4.27	4.42	4.52
	PI	2.86	2.91	2.97	3.01	3.05

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.75.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	3.73	1.88	3.59	2.00	3.44	2.10
-7	4.01	1.93	3.87	2.03	3.73	2.14
-2	4.26	1.95	4.12	2.07	3.98	2.19
2	5.18	2.04	4.97	2.17	4.76	2.30
6	7.31	2.20	7.10	2.35	6.85	2.50
10	7.95	2.32	7.74	2.48	7.53	2.65
15	8.59	2.42	8.38	2.61	8.17	2.77
20	9.05	2.49	8.84	2.70	8.59	2.91

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.76 Capacity Correction Factor Due to Tubing Length

5.76.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.03	1	0.968	0.907	0.876	0.873	---	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

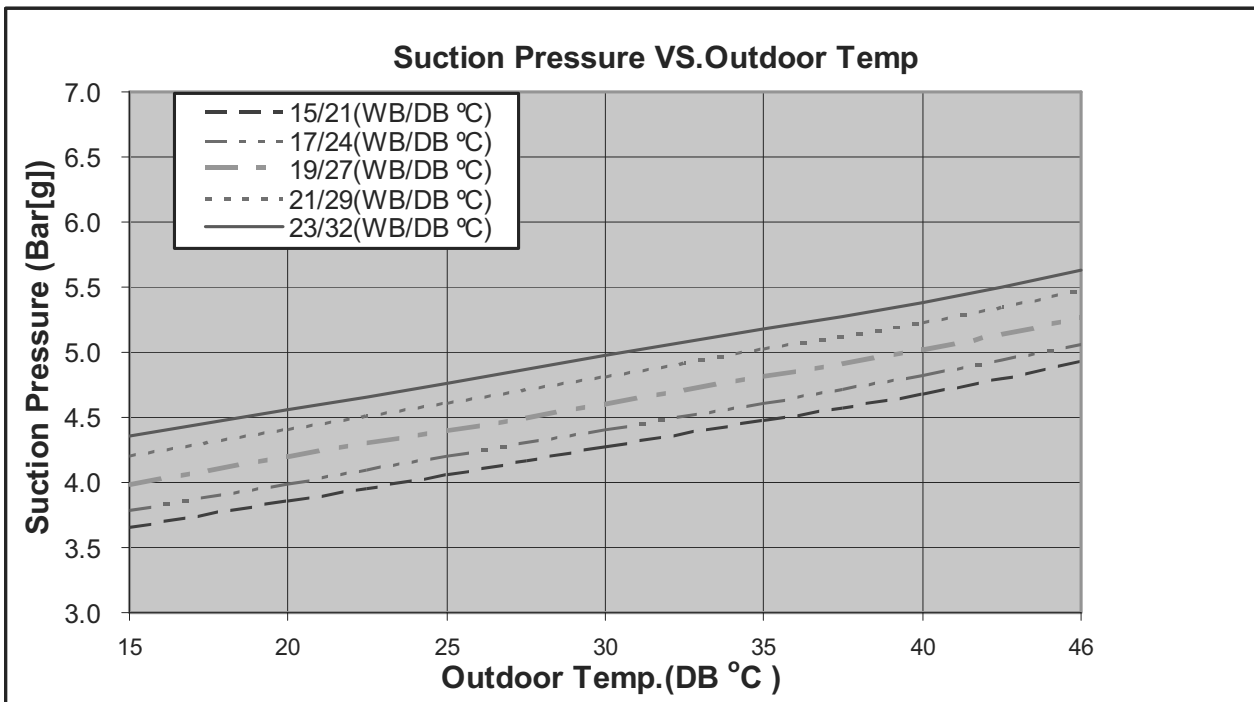
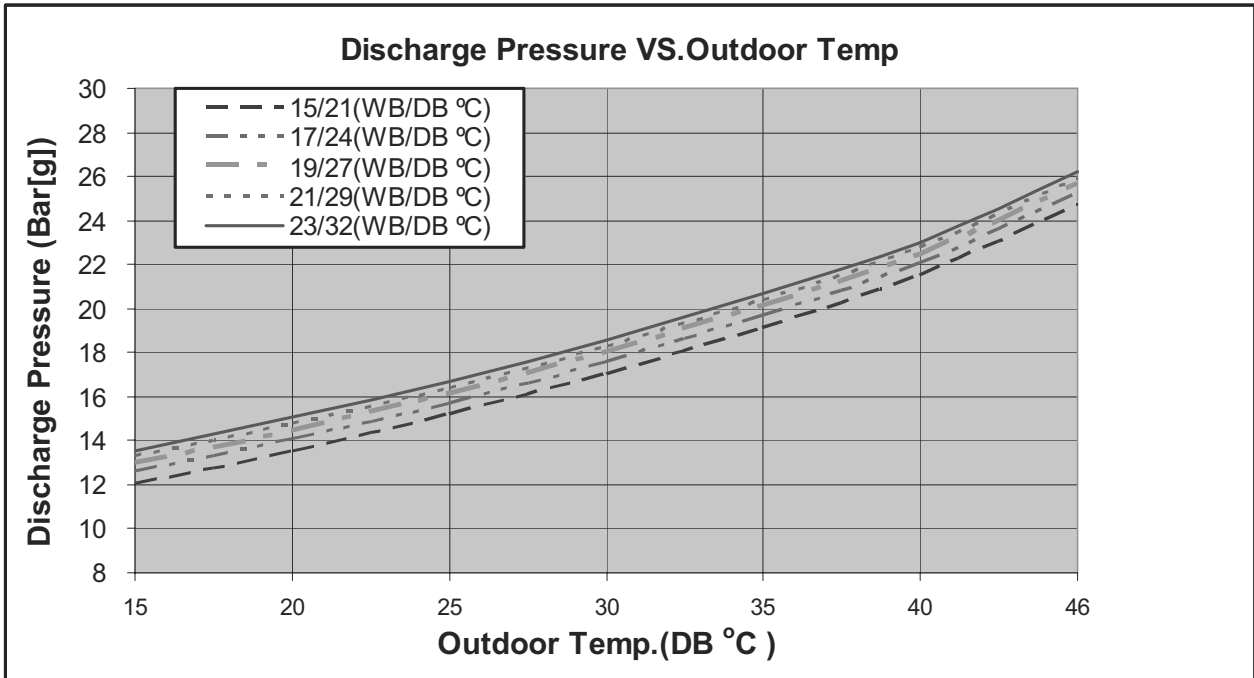
5.76.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.997	0.962	0.959	0.935	---	---	---

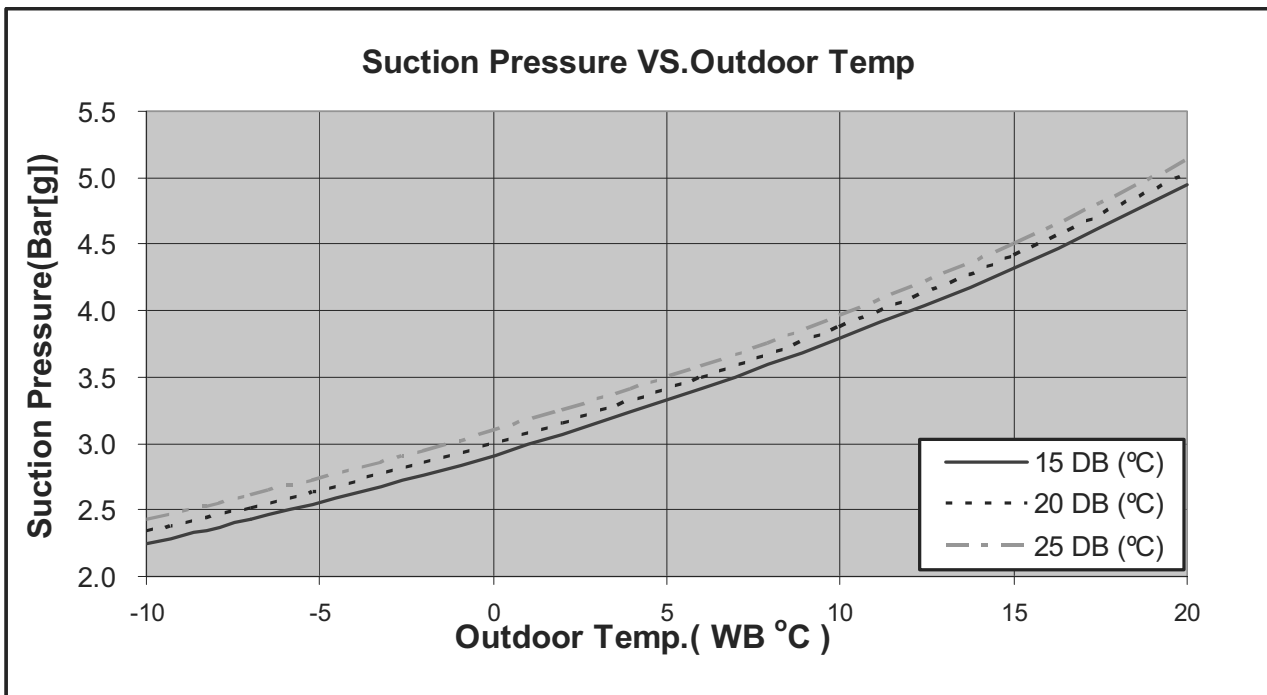
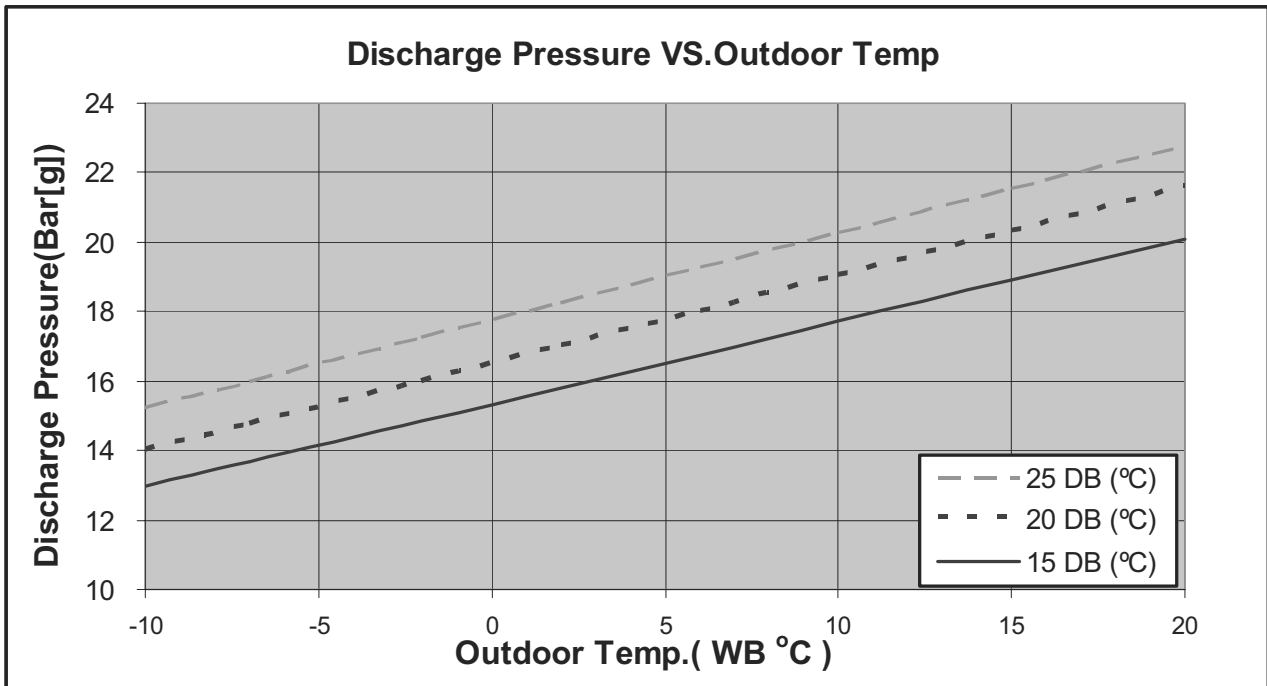
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.77 Pressure Curves.

5.77.1 Cooling.



5.77.2 Heating.



5.78 WNG30 GC30 R22

5.78.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	8.96	9.28	9.50	9.72	9.87
	SC	5.54	5.78	6.01	6.16	6.27
	PI	2.20	2.20	2.21	2.21	2.22
20 ⁽¹⁾	TC	8.67	9.14	9.42	9.65	9.86
	SC	5.43	5.73	5.97	6.14	6.25
	PI	2.39	2.39	2.40	2.42	2.42
25	TC	8.20	8.85	9.31	9.59	9.83
	SC	5.29	5.62	5.92	6.09	6.21
	PI	2.58	2.60	2.61	2.63	2.65
30	TC	7.67	8.35	9.02	9.34	9.62
	SC	5.13	5.45	5.79	5.96	6.08
	PI	2.78	2.82	2.85	2.87	2.90
35	TC	7.10	7.71	8.50	8.93	9.35
	SC	4.87	5.23	5.66	5.82	5.94
	PI	3.00	3.05	3.10	3.12	3.14
40	TC	6.46	7.03	7.67	8.39	8.82
	SC	4.59	4.95	5.35	5.52	5.64
	PI	3.24	3.29	3.34	3.38	3.42
46	TC	5.60	6.13	6.74	7.44	8.02
	SC	4.23	4.53	4.88	5.05	5.17
	PI	3.54	3.59	3.67	3.72	3.76

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.78.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

INTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.99	2.60	4.80	2.77	4.61	2.91
-7	5.37	2.67	5.18	2.81	4.99	2.96
-2	5.70	2.70	5.51	2.86	5.32	3.02
2	6.94	2.83	6.65	3.01	6.37	3.19
6	9.79	3.04	9.50	3.25	9.17	3.45
10	10.64	3.21	10.36	3.43	10.07	3.67
15	11.50	3.35	11.21	3.61	10.93	3.84
20	12.11	3.45	11.83	3.74	11.50	4.03

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.79 Capacity Correction Factor Due to Tubing Length

5.79.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.04	1	0.977	0.932	0.888	0.866	0.854	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

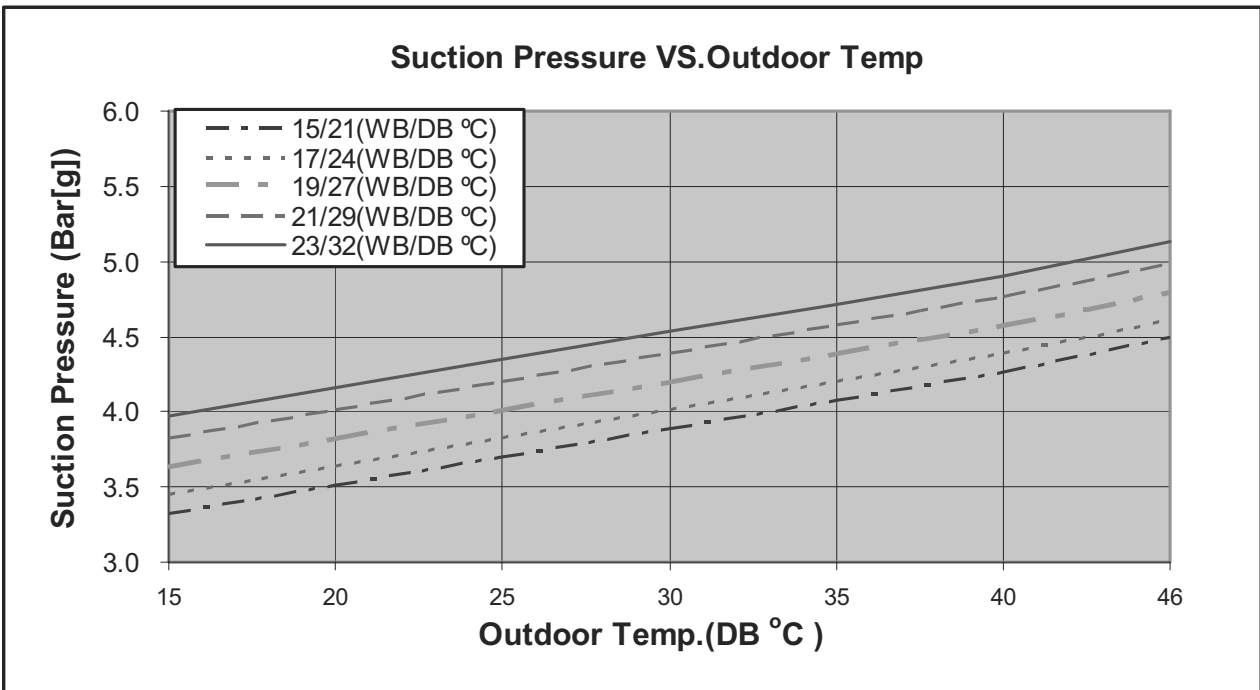
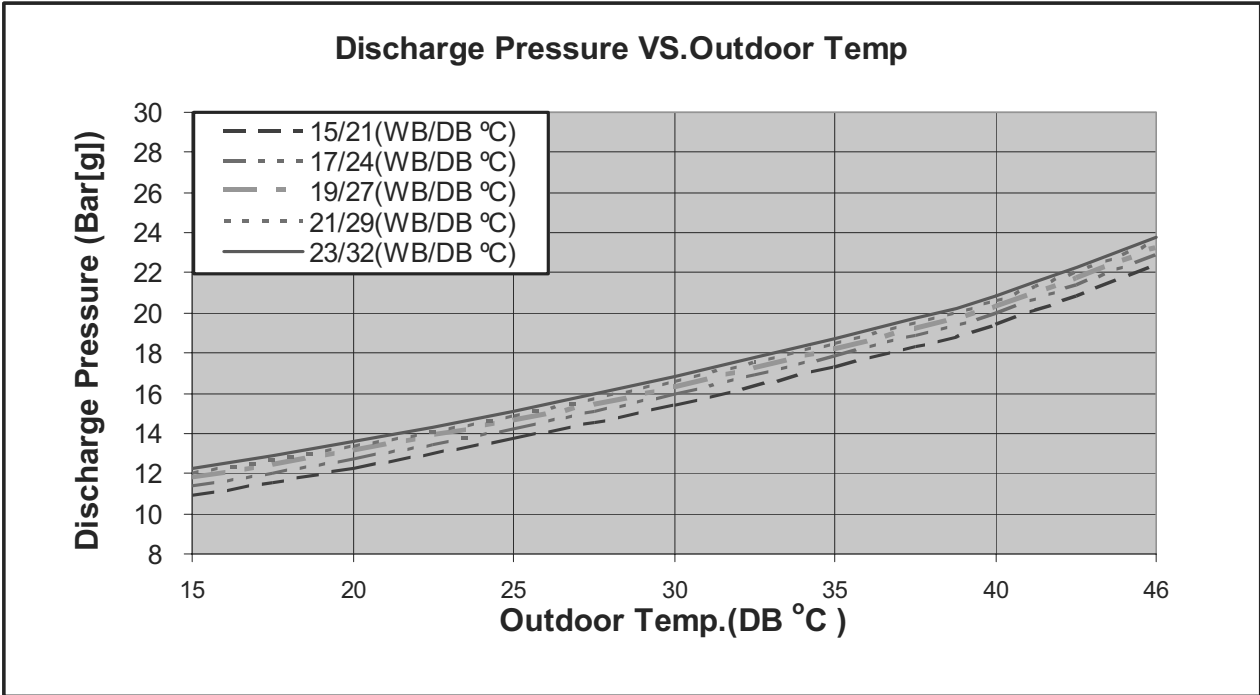
5.79.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.02	1	0.996	0.9891	0.9816	0.973	0.965	---	---

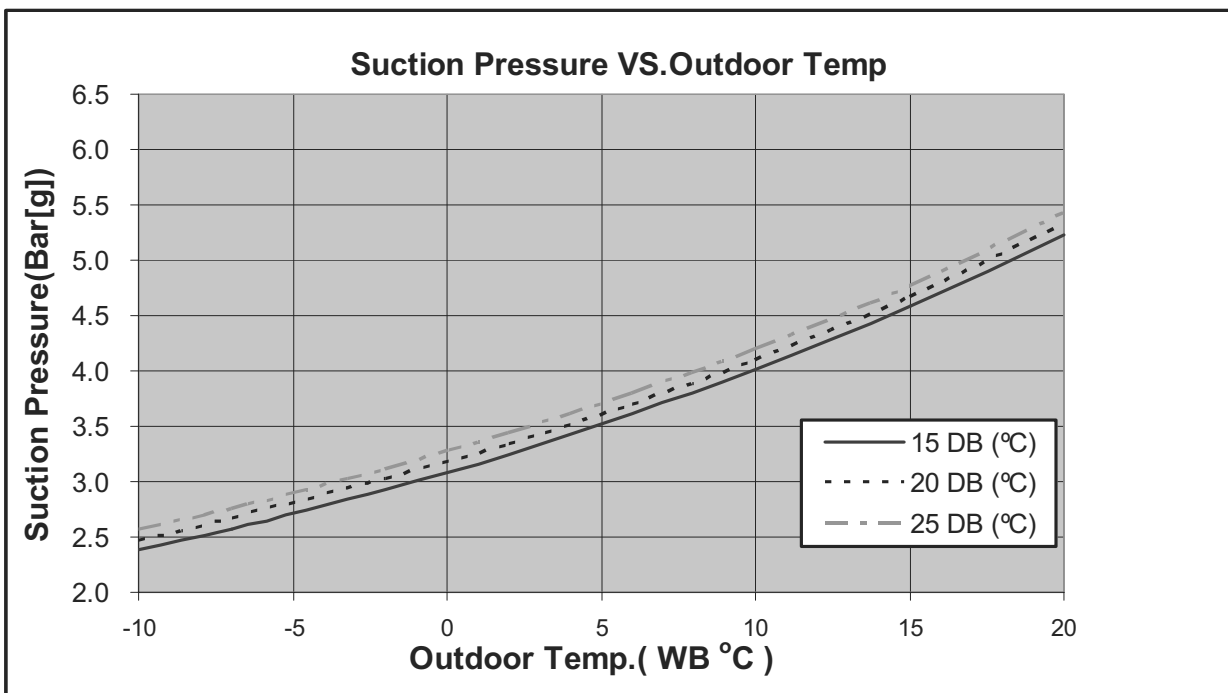
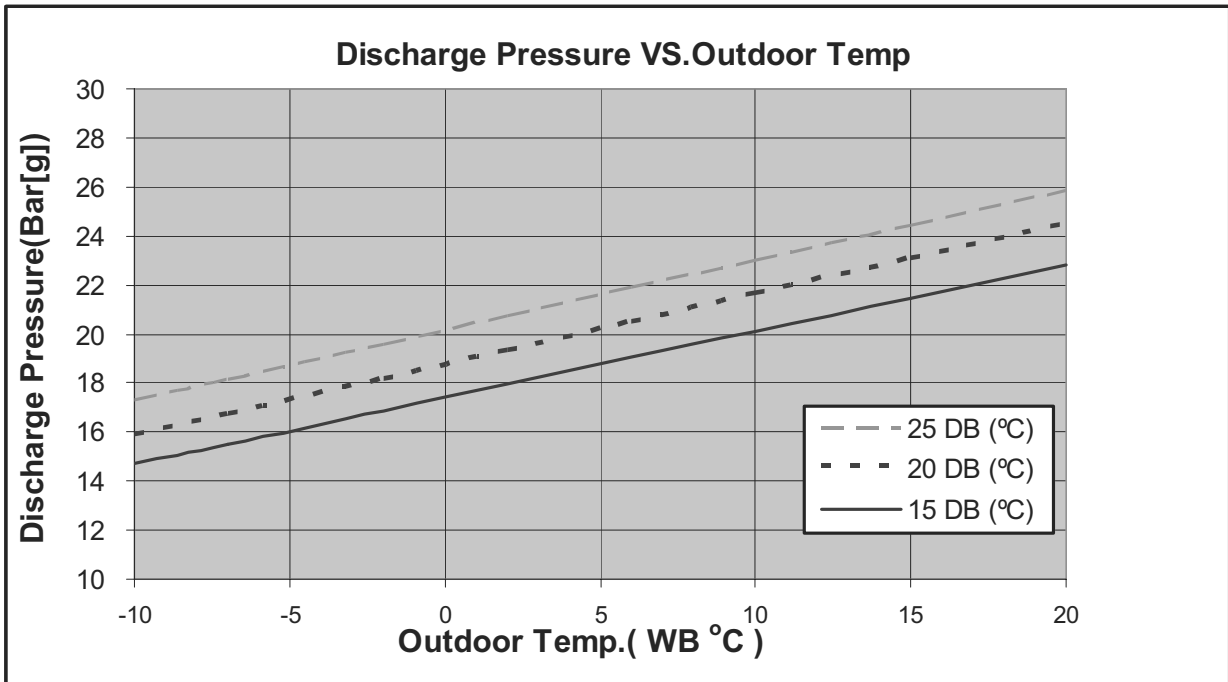
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.80 Pressure Curves.

5.80.1 Cooling.



5.80.2 Heating.



5.81 WNG30 OU830 R22

5.81.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	9.28	9.61	9.83	10.07	10.22
	SC	5.45	5.69	5.91	6.06	6.17
	PI	2.27	2.27	2.28	2.28	2.29
20 ⁽¹⁾	TC	8.97	9.46	9.76	9.99	10.20
	SC	5.35	5.64	5.87	6.04	6.15
	PI	2.46	2.47	2.48	2.49	2.50
25	TC	8.49	9.17	9.64	9.93	10.17
	SC	5.21	5.53	5.83	6.00	6.11
	PI	2.66	2.68	2.70	2.72	2.73
30	TC	7.94	8.65	9.34	9.67	9.96
	SC	5.05	5.36	5.70	5.87	5.98
	PI	2.87	2.91	2.94	2.96	2.99
35	TC	7.35	7.98	8.80	9.24	9.68
	SC	4.80	5.14	5.57	5.73	5.84
	PI	3.10	3.15	3.20	3.22	3.24
40	TC	6.69	7.28	7.94	8.68	9.13
	SC	4.52	4.87	5.27	5.44	5.55
	PI	3.34	3.39	3.45	3.49	3.53
46	TC	5.80	6.34	6.97	7.71	8.30
	SC	4.17	4.46	4.80	4.97	5.08
	PI	3.65	3.70	3.79	3.84	3.89

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.81.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.54	2.64	4.37	2.81	4.20	2.95
-7	4.89	2.71	4.71	2.85	4.54	3.01
-2	5.19	2.74	5.02	2.90	4.84	3.07
2	6.31	2.87	6.06	3.05	5.80	3.23
6	8.91	3.09	8.65	3.30	8.35	3.50
10	9.69	3.26	9.43	3.48	9.17	3.72
15	10.47	3.40	10.21	3.66	9.95	3.89
20	11.03	3.50	10.77	3.80	10.47	4.09

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.82 Capacity Correction Factor Due to Tubing Length

5.82.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.12	1	0.979	0.943	0.940	0.931	0.927	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

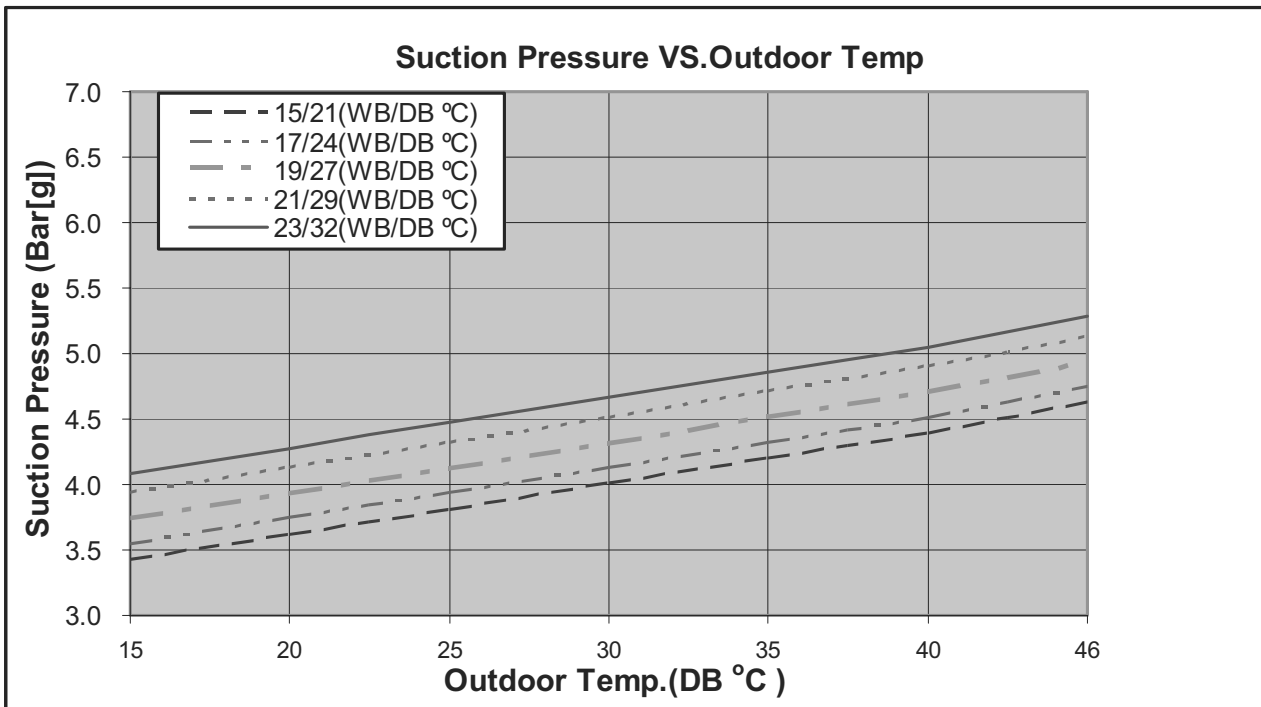
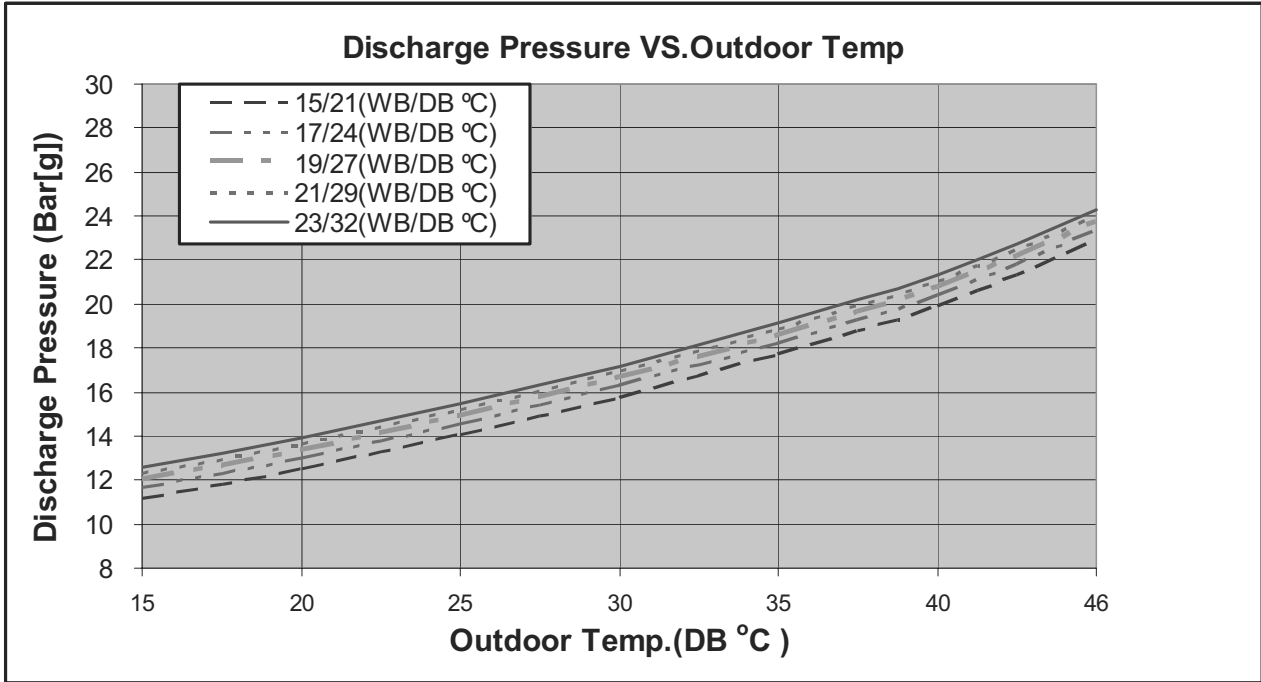
5.82.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.994	0.984	0.973	0.963	0.952	---	---

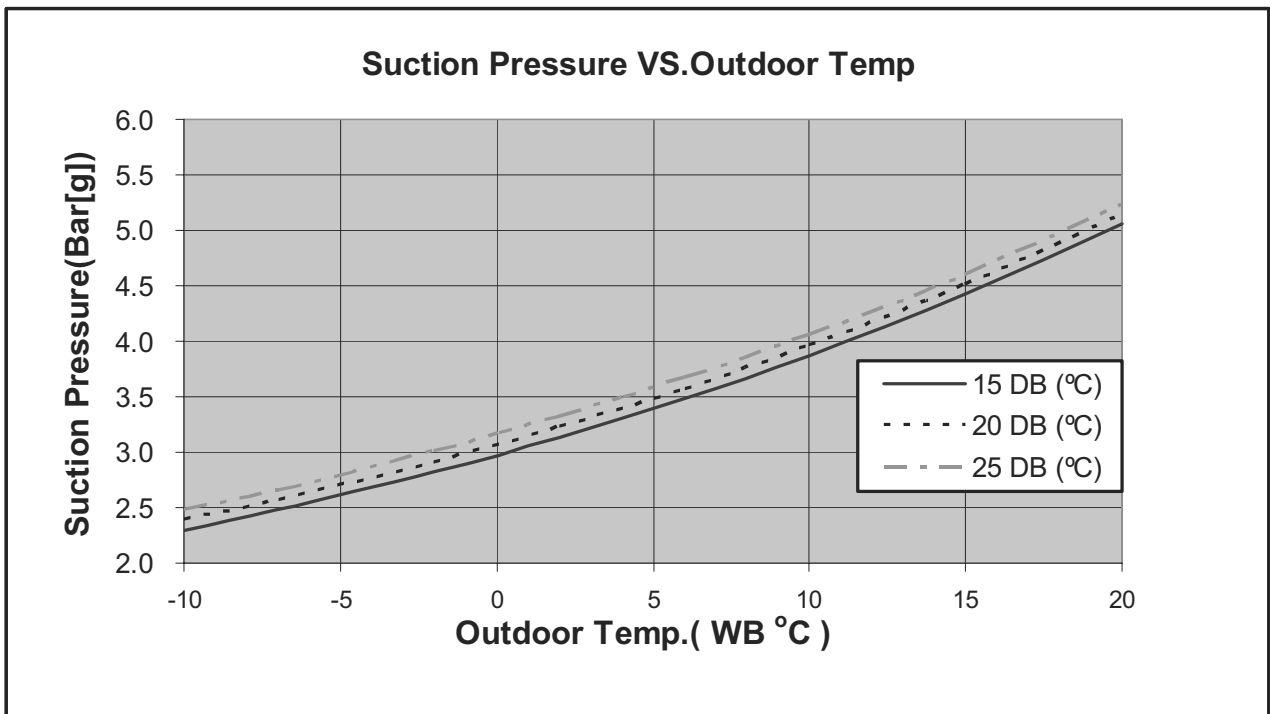
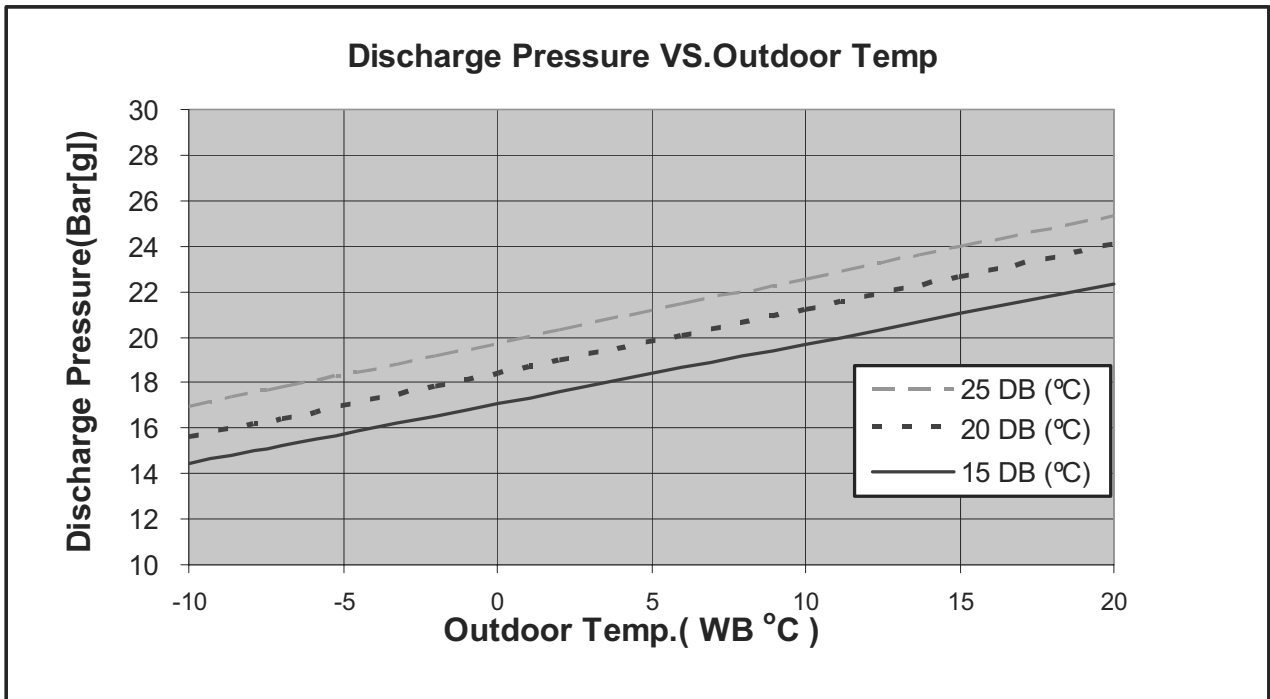
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.83 Pressure Curves.

5.83.1 Cooling.



5.83.2 Heating.



5.84 WNG30 OU833T R22

5.84.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR DB OU COIL(°C)	DATA	ENTERING AIR WB/DB ID COIL (°C)				
		15/21	17/24	19/27	21/29	23/32
15 ⁽¹⁾	TC	9.28	9.61	9.83	10.07	10.22
	SC	5.41	5.64	5.86	6.00	6.11
	PI	2.13	2.13	2.14	2.14	2.15
20 ⁽¹⁾	TC	8.97	9.46	9.76	9.99	10.20
	SC	5.30	5.59	5.82	5.99	6.10
	PI	2.31	2.32	2.32	2.34	2.34
25	TC	8.49	9.17	9.64	9.93	10.17
	SC	5.16	5.48	5.78	5.94	6.05
	PI	2.50	2.51	2.53	2.55	2.56
30	TC	7.94	8.65	9.34	9.67	9.96
	SC	5.00	5.31	5.65	5.82	5.93
	PI	2.69	2.73	2.75	2.78	2.80
35	TC	7.35	7.98	8.80	9.24	9.68
	SC	4.75	5.10	5.52	5.68	5.79
	PI	2.90	2.95	3.00	3.02	3.04
40	TC	6.69	7.28	7.94	8.68	9.13
	SC	4.48	4.82	5.22	5.39	5.50
	PI	3.13	3.18	3.23	3.27	3.31
46	TC	5.80	6.34	6.97	7.71	8.30
	SC	4.13	4.42	4.76	4.93	5.04
	PI	3.42	3.47	3.55	3.60	3.64

LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

(1) Marked area is below standard operating limits. For operating in low ambient conditions, refer to Optional Accessories (Chapter 15).

5.84.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING AIR WB OU COIL (°C)	ENTERING AIR DB ID COIL (°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	4.62	2.40	4.44	2.56	4.27	2.69
-7	4.97	2.46	4.80	2.60	4.62	2.74
-2	5.28	2.49	5.10	2.64	4.93	2.79
2	6.42	2.61	6.16	2.78	5.90	2.94
6	9.06	2.81	8.80	3.00	8.49	3.19
10	9.86	2.96	9.59	3.17	9.33	3.38
15	10.65	3.09	10.38	3.33	10.12	3.54
20	11.22	3.18	10.96	3.45	10.65	3.72

* the above chart includes the weighted deicing influence.

LEGEND

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.85 Capacity Correction Factor Due to Tubing Length

5.85.1 Cooling

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.12	1	0.979	0.943	0.940	0.931	0.927	---	---

* Minimum recommended tubing length between indoor and outdoor units is 3m.

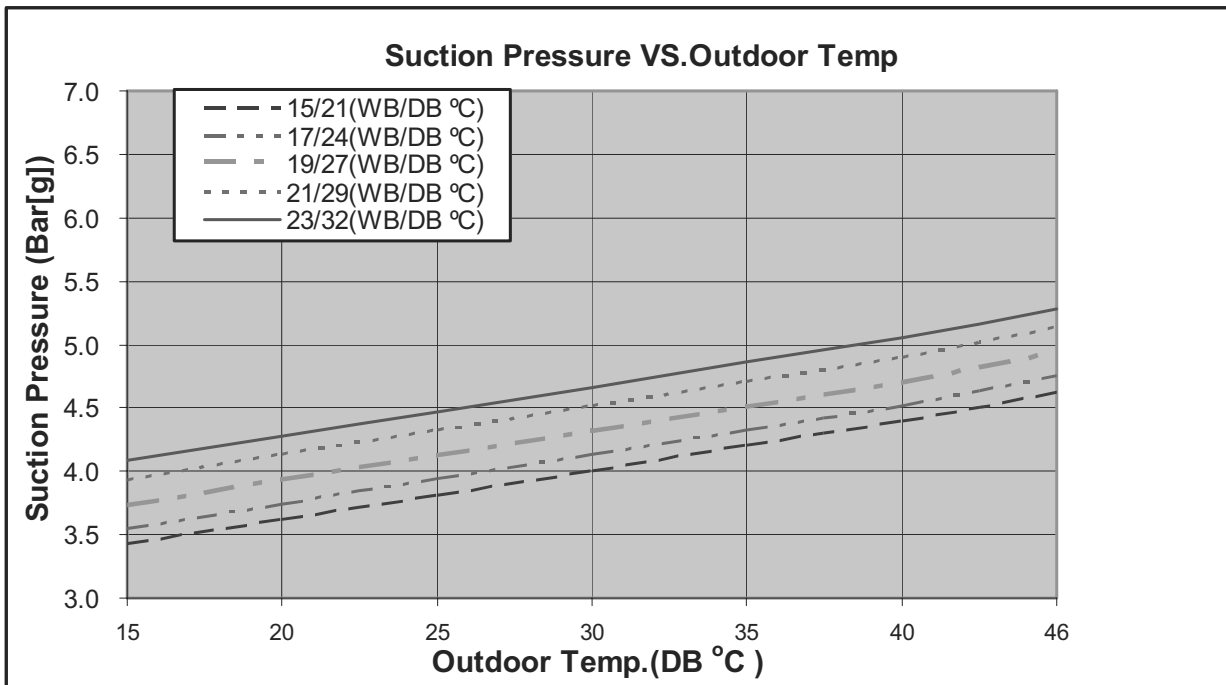
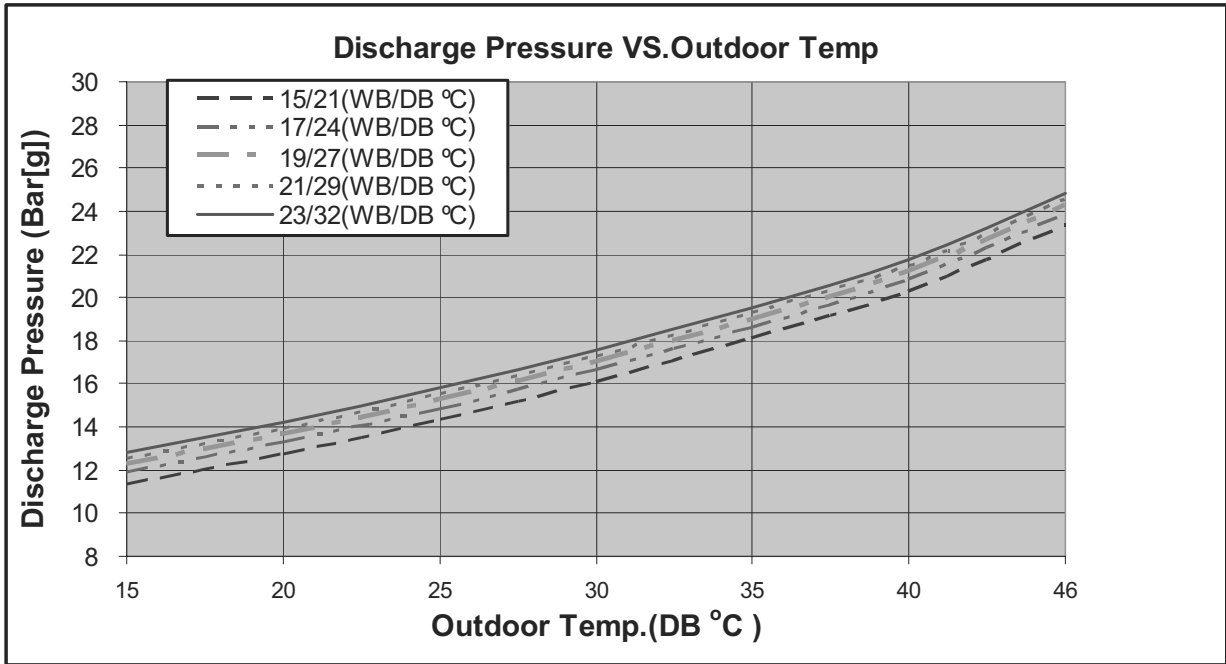
5.85.2 Heating

TOTAL TUBING LENGTH (One Way)								
3m	7.5m	10m	15m	20m	25m	30m	40m	50m
1.01	1	0.994	0.984	0.973	0.963	0.952	---	---

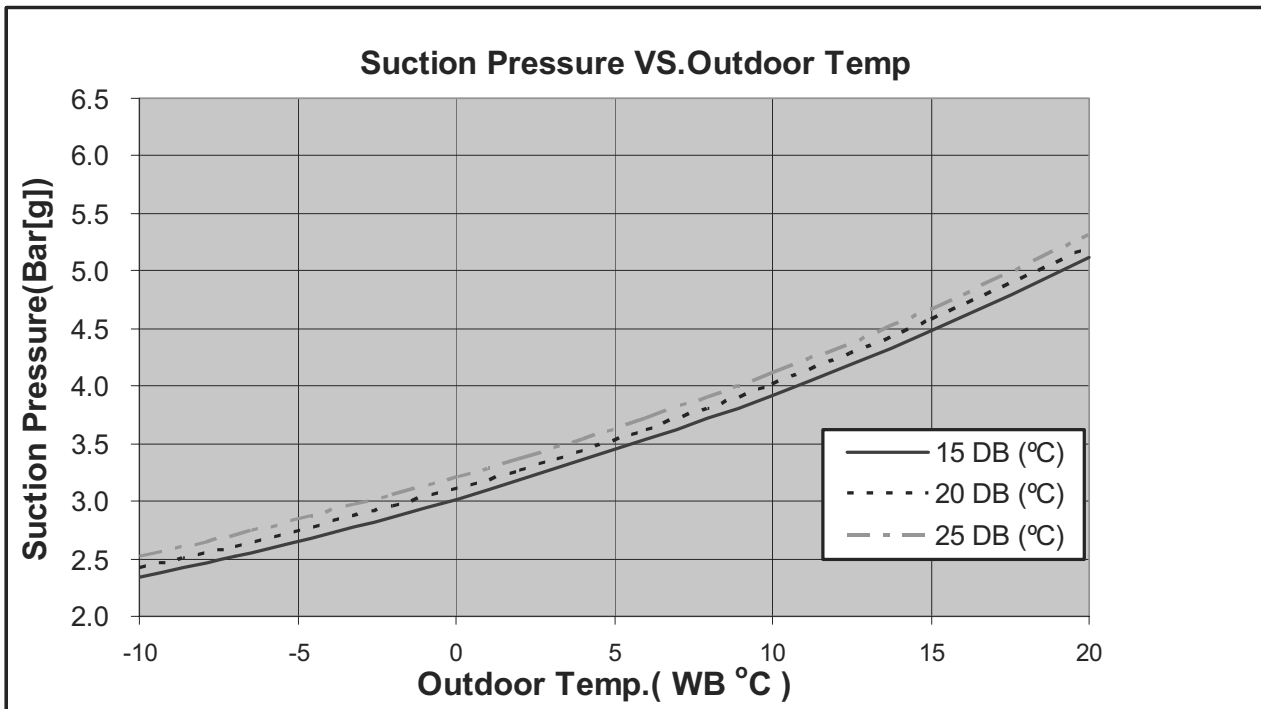
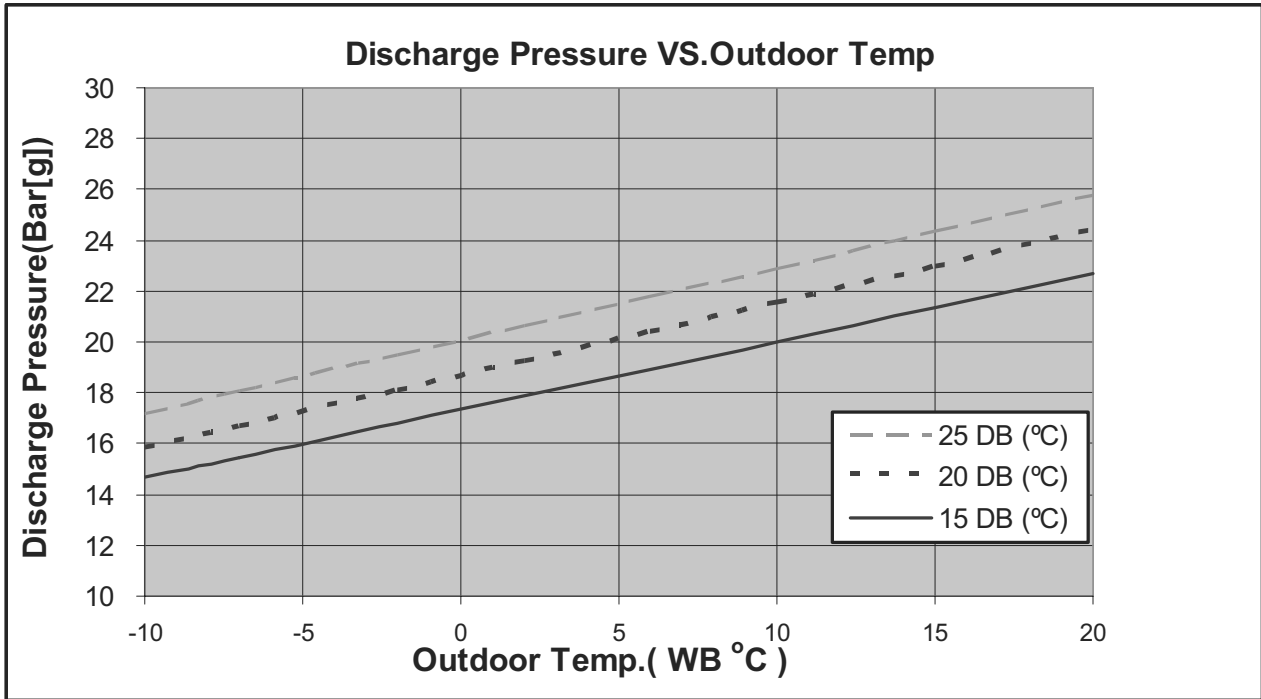
* Minimum recommended tubing length between indoor and outdoor units is 3m.

5.86 Pressure Curves.

5.86.1 Cooling.



5.86.2 Heating.



6. SOUND LEVEL CHARACTERISTICS

6.1 Sound Pressure Level

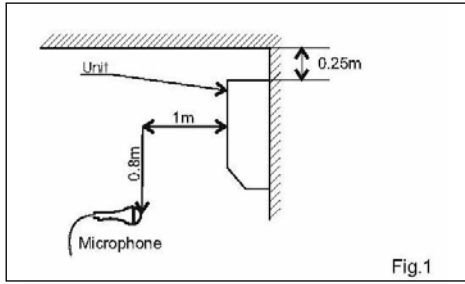


Figure 1. Wall Mounted

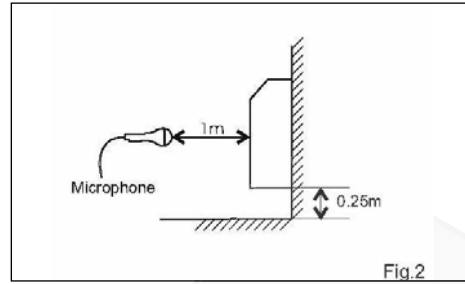


Figure 2. Floor Mounted

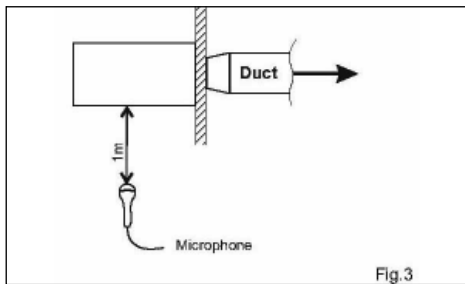


Figure 3. Ducted

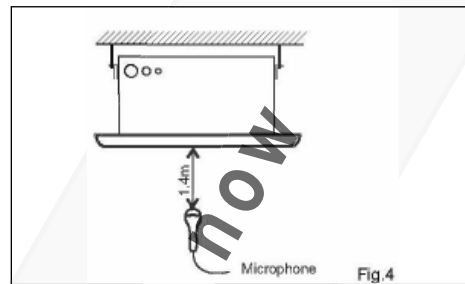
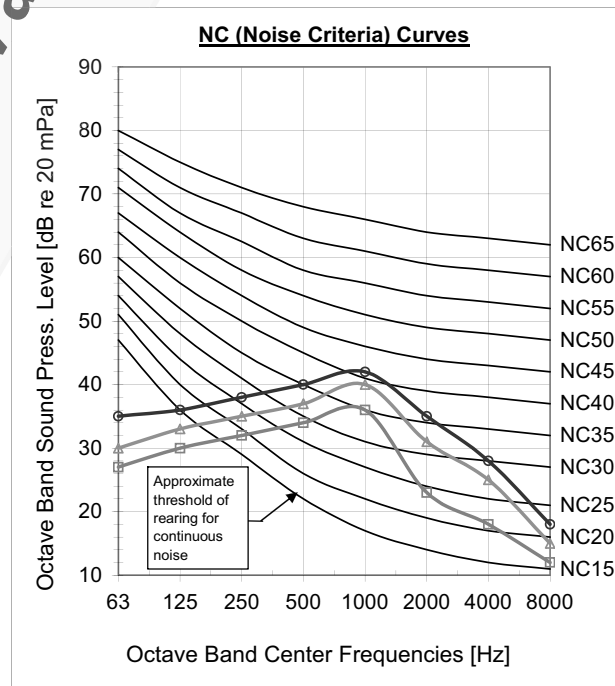
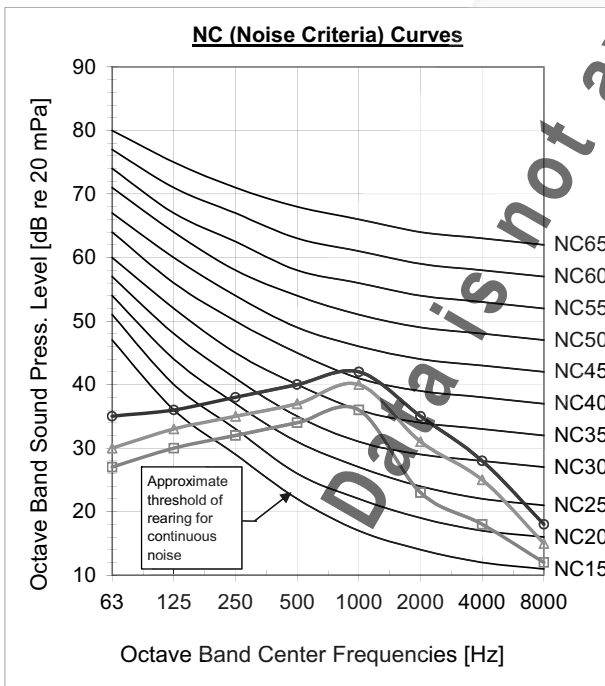


Figure 4. Cassette

6.2 Sound Pressure Level Spectrum (Measured as Figure 1)

WNG 7

WNG 9



FAN SPEED	LINE
HI	—○—
ME	—△—
LO	—□—

6.3 Outdoor units

MODEL		SPL dB(A)	SPW dB(A)
Indoor	Outdoor	Cooling/Heating	Cooling/Heating
WNG7	ONG-7	46/47	56/57
WNG9	ONG-9	48/49	58/60
WNG12	ONG-12	52/53	62/64
WNG14	ONG-14	53/54	63/64

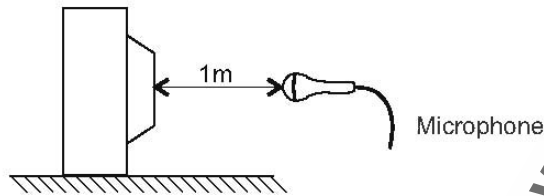


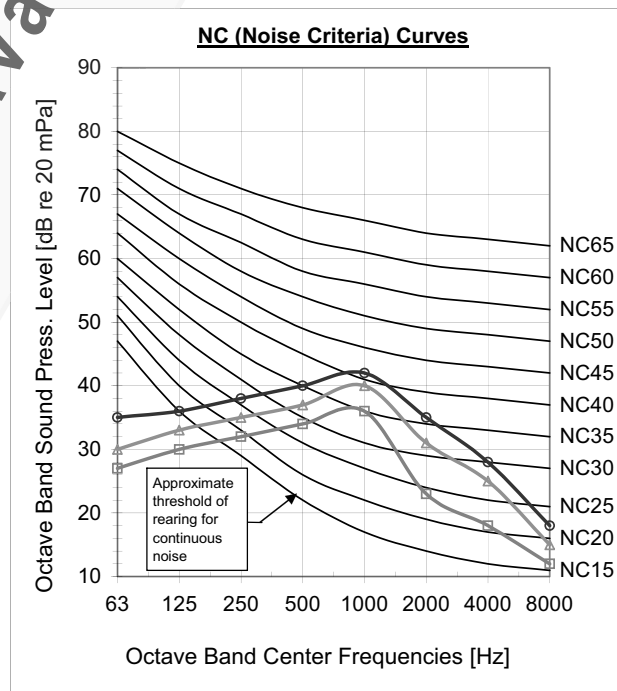
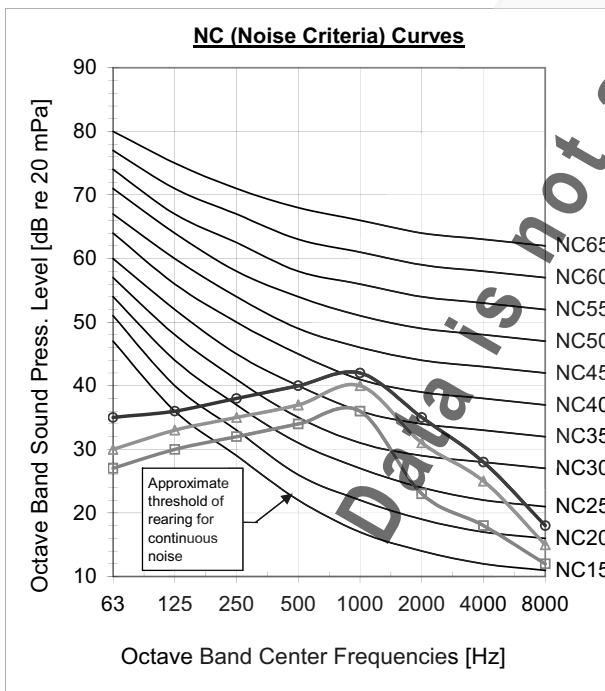
Fig.5

Figure 5. Microphone Distance from Unit

6.4 Sound Pressure Level Spectrum (Measured as Figure 5)

Cooling

Heating



MODEL	LINE
OU8-33	—○—
OU10-44	—△—
GC-18	—●—
GC-24	—□—