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FRASER-JOHNSTON

Heating ■ Air Conditioning

13 SEER – R-410A
HORIZONTAL DISCHARGE
TCHD 018 THRU 060
1-1/2 THRU 5 TONS



DESCRIPTION

The 13 SEER Series condensing unit is the outdoor part of a versatile system of air conditioning. It is designed to be custommatched with one of UPG's complete line of evaporator sections coils

WARRANTY

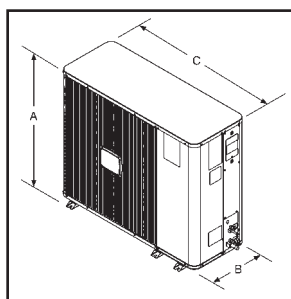
Standard 5-year limited parts warranty.
 Standard 10-year limited compressor warranty

FEATURES

- **Easy to Install** - Compact "slim-line" design allows for easy installation in tight spaces. Units can be stacked.
- **Lower Installation Cost** - Installation time and costs are reduced by easy power and control wiring connections. The unit contains enough refrigerant for matching indoor coils and 15 feet of interconnecting piping.
- **Quiet Operation** - Levels as low as 67 dBA. High efficiency scroll

compressor and swept wing fan design reducing operating sound to a mere whisper.

- **Compressor Protection** - The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of high pressure relief valve and temperature sensor.
- **Low Maintenance** - Long life permanently lubricated motorbearings need no annual servicing.
- **Easy Service Access** - Fully exposed refrigerant connections and a single panel covering the electrical controls make for easy servicing of the unit.
- **Other Features:**
 - Factory supplied filter drier
 - Accumulator and crankcase heater in all sizes
 - Up to 200' line set out of the box
 - Zero lot line clearances (6" clearance in either direction)



Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
18	25-1/8	17-1/2	37-1/4	3/8"	3/4"
24	37-1/4	20	45		
30	37-1/4	20	45		
36	37-1/4	20	45		
48	43-1/4	20	45	7/8"	
60	43-1/4	20	45		

PHYSICAL AND ELECTRICAL DATA

MODEL	TCHD18 S41S3	TCHD24 S41S3	TCHD30 S41S3	TCHD36 S41S3	TCHD48 S41S3	TCHD60 S41S3
Unit Supply Voltage	208-230V, 1ϕ 60Hz					
Normal Voltage Range	187 to 252					
Minimum Circuit Ampacity	11.8	17.4	17.5	23.1	27.1	34.3
Max. Overcurrent Device Amps	20	30	30	40	45	60
Min. Overcurrent Device Amps	15	20	20	25	30	35
Multi-Stage Compressor	No	No	No	No	No	No
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor	Rated Load	9.0	13.5	12.8	17.3	20.5
	Locked Rotor	48.0	58.3	64.0	96.7	115.0
Crankcase Heater	Yes	Yes	Yes	Yes	Yes	Yes
Fan Diameter Inches	17.5	17.5	23	23	23	23
Fan Motor	Rated HP	1/8	1/8	1/4	1/4	1/4
	Rated Load Amps	0.60	0.60	1.45	1.45	1.45
	Nominal RPM	840	840	850	850	850
Coil	Face Area Sq. Ft.	5.76	5.76	11.96	11.96	13.96
	Rows Deep	1	1	1	1	1
	Fins / Inches	23	23	23	23	23
Refrigerant Lines	Max. Length	200	200	200	200	200
	Max. Lift	65	65	65	65	65
	Max. Drop	150	150	150	150	150
	Liquid Line Set OD (Field Installed)	3 / 8	3 / 8	3 / 8	3 / 8	3 / 8
	Vapor Line Set OD (Field Installed)	3 / 4	3 / 4	3 / 4	3 / 4	7 / 8
Unit Charge (Lbs. - Oz.)	2 - 14	3 - 5	4 - 0	4 - 8	5 - 5	5 - 6
Charge Per Foot, Oz.	0.68	0.68	0.68	0.68	0.70	0.70
Operating Weight Lbs.	130	135	195	215	240	250

FRASER-JOHNSTON

Heating ■ Air Conditioning

LX SERIES SPLIT SYSTEM AIR CONDITIONERS

17 SEER – R-410A – 1 PHASE
1.5 THRU 5 NOMINAL TONS
MODELS: TC7B18 THRU 60

FOR INSTALLATION IN ALL US REGIONS AND CANADA



CONDENSERS

DESCRIPTION

The TC7 Series is the newest addition to our successful LX Series split system air conditioner lineup. Optimized for tax credit and utility rebate efficiency levels, these ENERGY STAR labeled outdoor units are specifically designed to be matched with Johnson Controls Unitary Products indoor coils, furnaces, and air handlers to provide a complete system solution.

WARRANTY

Extended 10-Years limited parts warranty.

Standard 10-year limited compressor warranty.

Extended 10-Years limited parts warranty requires online registration within 90 days of purchase for replacement or closing for new home construction.

FEATURES

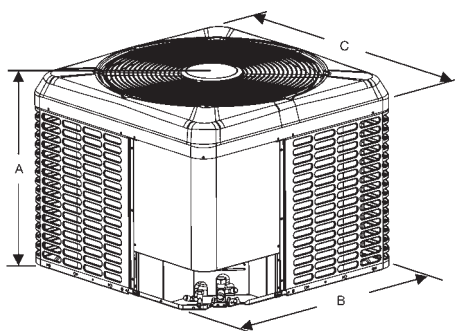
- **High System Efficiency** - Optimized system designs provide ENERGY STAR coil-only ratings in all tonnages. Targeted furnace and air handler matches meeting Federal Tax Credit efficiencies are available for almost all tonnages and markets.
- **Easier Installation** - Independent panels provide quick access for unit setup. Installation time is reduced by easy power and control wiring access. The factory-installed filter-drier and factory charge for a 15-Ft lineset means less time spent brazing and charging the system.
- **Accessible Information** - QR code on unit provides quick access to technical documents and warranty information.
- **Durable Finish** - The coated steel wire fan guard, coated external fasteners, and pre-treated G90-equivalent galva-nized steel chassis components resist corrosion and rust creep. Titanium colored powdercoat paint further protects external panels.
- **Quality Coils** - The high efficiency microchannel aluminum coil is manufactured using an improved material system providing reliable performance and smaller unit size.
- **Rugged Coil Protection** - Coils are protected from mechanical damage by a proven stamped steel coil guard design.
- **Protected Compressor** - Compressors are protected internally by a high pressure relief valve and a temperature sensor, and externally by the system high and low pressure switches. The liquid line filter-drier is factory installed to protect the compressor against moisture and debris.
- **Reliable Operation** - ECM ball bearing fan motors provide superior performance in extreme temperatures.
- **Environmentally Friendly** - CFC-free R-410A refrigerant delivers environmentally friendly performance with zero ozone depletion.
- **Top Discharge** - Warm air is blown up, away from the structure and any landscaping and allows compact location on multi-unit applications.
- **Low Operating Sound Levels** - Specific sound and vibration development tests provide a design sound performance of 74 dBA or lower. Swept-wing fan blades are featured on units 2.5-Tons and higher. Compatible accessories for further sound reduction are also available.
- **Better Service Access** - Diagonal base valves with open access for low-loss fittings, single panel access to the electrical controls, swing out control box for full corner access, and removable fan guard allow easy access for unit maintenance.
- **Agency Listed** - Safety certified by CSA to UL 1995 / CSA 22.2. Performance certified to ANSI/AHRI Standard 210/240 in accordance with the Unitary Small Equipment certification program.



PHYSICAL AND ELECTRICAL DATA

MODEL	TC7B1821S	TC7B2421S	TC7B3021S	TC7B3621S	TC7B4221S	TC7B4821S	TC7B6021S
Unit Supply Voltage	208-230V, 1ø, 60Hz						
Normal Voltage Range ¹	187 to 252						
Minimum Circuit Ampacity	14.0	16.4	18.8	22.0	23.6	25.9	32.4
Max. Overcurrent Device Amps ²	20	25	30	35	40	40	50
Min. Overcurrent Device Amps ³	15	20	20	25	25	30	35
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor Amps	Rated Load	9.0	10.9	12.8	15.4	16.6	23.7
	Locked Rotor	47.5	62.9	67.8	83.9	109.0	152.5
Crankcase Heater	No	No	No	No	No	No	No
Factory External Discharge Muffler	No	No	No	No	No	No	No
HS Kit Required with TXV	No	No	No	No	No	No	No
Fan Diameter Inches	22	22	24	24	26	26	26
Fan Motor	Rated HP	1/3	1/3	1/3	1/3	1/3	1/3
	Rated Load Amps	2.80	2.80	2.80	2.80	2.80	2.80
	Nominal RPM	917	917	682	682	875	834
	Nominal CFM	2575	2575	3000	3000	4100	4275
Coil	Face Area Sq. Ft.	13.83	13.83	21.06	21.06	25.28	27.40
	Rows Deep	1	1	1	1	1	1
	Fins / Inches	23	23	23	23	23	23
Liquid Line Set OD (Field Installed)	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Vapor Line Set OD (Field Installed) ⁴	3/4	3/4	3/4	3/4	7/8	7/8	1-1/8 [‡]
Unit Charge (Lbs. - Oz.) ⁵	3 - 10	3 - 10	4 - 11	4 - 9	6 - 6	6 - 11	7 - 14
Charge Per Foot, Oz.	0.62	0.62	0.62	0.62	0.67	0.67	0.75
Operating Weight Lbs.	150	150	165	175	220	220	265

1. Rated in accordance with AHRI Standard 110-2012, utilization range "A"
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.
3. Dual element fuses or HACR circuit breaker. Minimum recommended overcurrent protection.
4. For applications with non-standard vapor line sizes, see the "Applications & Accessories" section of this Technical Guide.
5. The Unit Charge is correct for the outdoor unit, smallest matched indoor unit, and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, add or subtract the amount of refrigerant, using the difference in actual lineset length (not the equivalent length) multiplied by the per foot value.



Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
TC7B1821S	30	29-1/4	29-1/4	3/8	3/4
TC7B2421S	30	29-1/4	29-1/4		
TC7B3021S	36-1/4	35-1/4	31-3/4		
TC7B3621S	36-1/4	35-1/4	31-3/4		7/8
TC7B4221S	39-1/2	38	34-1/4		
TC7B4821S	39-1/2	38	34-1/4		
TC7B6021S	42-3/4	38	34-1/4	7/8 [‡]	

‡ Adapter fitting must be field installed for the required 1-1/8" line set.
 All dimensions are in inches and are subject to change without notice.
 Overall height is from bottom of base pan to top of fan guard.
 Overall length and width include screw heads.

FRASER-JOHNSTON

Heating ■ Air Conditioning

LX SERIES SPLIT SYSTEM AIR CONDITIONERS

14 SEER – R-410A – 1 PHASE 1.5
THRU 5 NOMINAL TONS
MODELS: TF4B18 THRU 60



CONDENSERS

DESCRIPTION

The TF4B models are a new offering in our successful LX Series split system air conditioner lineup. These units are optimized for the new 14 SEER Regional Minimum Efficiency in the Southeast US, and feature a tube-in-fin condenser coil, scroll compressor, and copper filter-drier. These outdoor units have been specifically designed to be matched with Johnson Controls Unitary Products indoor coils, furnaces, and air handlers to provide a complete system solution.

WARRANTY

Standard 5-Years limited parts warranty.

Standard 10-Years limited compressor warranty.

Extended 10-Years limited parts warranty when product is registered online within 90 days of purchase for replacement or closing for new home construction.

FEATURES

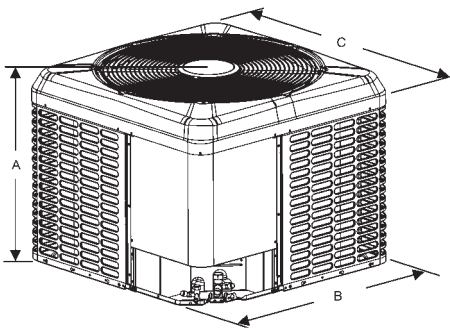
- **Quality Coils** - Enhanced aluminum fins are mechanically bonded to copper tubing.
- **Scroll Compressor** - Featuring the newest generation of high efficiency scroll compressors.
- **Copper filter-drier** - The factory installed filter drier features copper construction for reliable long term protection.
- **Easier Installation** - Independent panels provide quick access for unit setup. Installation time is reduced by easy power and control wiring access. Select indoor matches with factory-mounted TXVs are available for quicker system installation. The factory installed filter-drier and factory charge for a 15-Ft lineset means less time spent brazing and charging the system. The small base dimension and reduced unit clearances make for easier retrofits.
- **Accessible Information** - QR code on unit provides quick access to technical documents and warranty information.
- **Durable Finish** - The coated steel wire fan guard, coated external fasteners, and pre-treated G90-equivalent galvanized steel chassis components resist corrosion and rust creep. Titanium colored powdercoat paint further protects external panels.
- **Rugged Coil Protection** - Coils are protected from mechanical damage by a proven stamped steel coil guard design.
- **Protected Compressor** - Compressors are protected internally by a high pressure relief valve and a temperature sensor, and externally by the system high pressure switch. The liquid line filter-drier is factory installed to protect the compressor against moisture and debris.
- **Reliable Operation** - Ball bearing fan motors provide superior performance in extreme temperatures.
- **Environmentally Friendly** - CFC-free R-410A refrigerant delivers environmentally friendly performance with zero ozone depletion.
- **Top Discharge** - Warm air is blown up, away from the structure and any landscaping and allows compact location on multi-unit applications.
- **Low Operating Sound Levels** - Developed using CFD and FEA tools, the sturdy cabinet and top design provides sound performance of 76 dBA or lower. Compatible accessories for further sound reduction are also available.
- **Better Service Access** - Diagonal base valves with open access for low-loss fittings, single panel access to the electrical controls, full corner access, and removable fan guard allow easy access for unit maintenance.
- **Agency Listed** - Safety certified by CSA to UL 1995 / CSA 22.2. Performance certified to ANSI/AHRI Standard 210/240 in accordance with the Unitary Small Equipment certification program.



PHYSICAL AND ELECTRICAL DATA

MODEL	TF4B1821S	TF4B2421S	TF4B3021S	TF4B3621S	TF4B4221S	TF4B4821S	TF4B6021S	
Unit Supply Voltage	208-230V, 1 φ, 60Hz							
Normal Voltage Range ¹	187 to 252							
Minimum Circuit Ampacity	11.8	13.6	18.1	20.5	22.1	25.7	31.7	
Max. Overcurrent Device Amps ²	20	20	30	35	35	45	50	
Min. Overcurrent Device Amps ³	15	15	20	25	25	30	35	
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	
Compressor Amps	Rated Load	9.0	10.2	13.4	15.4	16.6	19.5	24.3
	Locked Rotor	47.5	61.6	72.5	83.9	109.0	130.0	144.2
Crankcase Heater	No	No	No	No	No	No	No	
Factory External Discharge Muffler	No	No	No	No	No	No	No	
HS Kit Required with TXV ⁴	No	No	No	No	No	No	No	
Fan Diameter Inches	18	22	24	24	24	24	26	
Fan Motor	Rated HP	1/12	1/8	1/4	1/4	1/4	1/4	
	Rated Load Amps	0.64	0.80	1.30	1.30	1.30	1.30	
	Nominal RPM	1000	1075	850	850	850	850	
	Nominal CFM	2125	2850	3775	3775	3550	3625	4025
Coil	Face Area Sq. Ft.	14.51	14.58	23.69	23.69	45.95	47.38	51.07
	Rows Deep	1	1	1	1	2	2	2
	Fins / Inches	22	22	22	22	18	18	18
Liquid Line Set OD (Field Installed)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	
Vapor Line Set OD (Field Installed) ⁵	3/4	3/4	3/4	3/4	7/8	7/8	1-1/8 [‡]	
Unit Charge (Lbs. - Oz.) ⁶	4 - 15	4 - 15	8 - 4	7 - 5	12 - 10	11 - 5	13 - 2	
Charge Per Foot, Oz.	0.62	0.62	0.62	0.62	0.67	0.67	0.75	
Operating Weight Lbs.	120	131	176	176	230	235	256	

1. Rated in accordance with AHRI Standard 110-2012, utilization range "A"
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.
3. Dual element fuses or HACR circuit breaker. Minimum recommended overcurrent protection.
4. See Hard Start Kit Accessory Installation Manual for Hard Start Kit part number for each model.
5. For applications with non-standard vapor line sizes, see the "Applications & Accessories" section of this Technical Guide.
6. The Unit Charge is correct for the outdoor unit, smallest matched indoor unit, and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, add or subtract the amount of refrigerant, using the difference in actual lineset length (not equivalent length) multiplied by the per foot value.



Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
TF4B1821S	36-1/4	24	24	3/8	3/4
TF4B2421S	30	29-1/4	29-1/4		
TF4B3021S	39-1/2	35-1/4	31-3/4		
TF4B3621S	39-1/2	35-1/4	31-3/4		7/8
TF4B4221S	39-1/2	35-1/4	31-3/4		
TF4B4821S	39-1/2	35-1/4	31-3/4		
TF4B6021S	39-1/2	38	34-1/4	7/8 [‡]	

‡ Adapter fitting must be field installed for the required 1-1/8" line set.
 All dimensions are in inches and are subject to change without notice.
 Overall height is from bottom of base pan to top of fan guard.
 Overall length and width include screw heads.

FRASER-JOHNSTON®

Heating ■ Air Conditioning

LX SERIES SPLIT SYSTEM AIR CONDITIONERS

13 SEER – R-410A – 1 PHASE 1.5 THRU 5 NOMINAL TONS MODELS: TC3B18 THRU 60



CONDENSERS

DESCRIPTION

The TC3B models are the latest iteration in our successful LX Series split system air conditioner lineup. Optimized for the 13 SEER Regional Minimum Efficiency in the North US and Canada, these outdoor units are specifically designed to be matched with Johnson Controls Unitary Products indoor coils, furnaces, and air handlers to provide a complete system solution.

WARRANTY

Standard 5-Years limited parts warranty.

Standard 10-Years limited compressor warranty.

Extended 10-Years limited parts warranty when product is registered online within 90 days of purchase for replacement or closing for new home construction.

FEATURES

- **Small Footprint** - Minimum footprint for easier handling, transportation, and installation.
- **Easier Installation** - Independent panels provide quick access for unit setup. Installation time is reduced by easy power and control wiring access. Options are provided for indoor piston or TXV. The factory installed filter-drier and factory charge for a 15-Ft lineset means less time spent brazing and charging the system. The small base dimension and reduced unit clearances make for easier retrofits.
- **Accessible Information** - QR code on unit provides quick access to technical documents and warranty information.
- **Durable Finish** - The coated steel wire fan guard, coated external fasteners, and pre-treated G90-equivalent galvanized steel chassis components resist corrosion and rust creep. Titanium colored powdercoat paint further protects external panels.
- **Quality Coils** - The high efficiency microchannel aluminum coil is manufactured using an improved material system providing reliable performance and small unit size.
- **Rugged Coil Protection** - Coils are protected from mechanical damage by a proven stamped steel coil guard design.
- **Protected Compressor** - Compressors are protected internally by a high pressure relief valve and a temperature sensor, and externally by the system high pressure switch. The liquid line filter-drier is factory installed to protect the compressor against moisture and debris.
- **Reliable Operation** - Ball bearing fan motors provide superior performance in extreme temperatures.
- **Environmentally Friendly** - CFC-free R-410A refrigerant delivers environmentally friendly performance with zero ozone depletion.
- **Top Discharge** - Warm air is blown up, away from the structure and any landscaping and allows compact location on multi-unit applications.
- **Low Operating Sound Levels** - Developed using CFD and FEA tools, the sturdy cabinet and top design provides sound performance of 77 dBA or lower. Compatible accessories for further sound reduction are also available.
- **Better Service Access** - Diagonal base valves with open access for low-loss fittings, single panel access to the electrical controls, swing out control box for full corner access, and removable fan guard allow easy access for unit maintenance.
- **Agency Listed** - Safety certified by CSA to UL 1995 / CSA 22.2. Performance certified to ANSI/AHRI Standard 210/240 in accordance with the Unitary Small Equipment certification program.

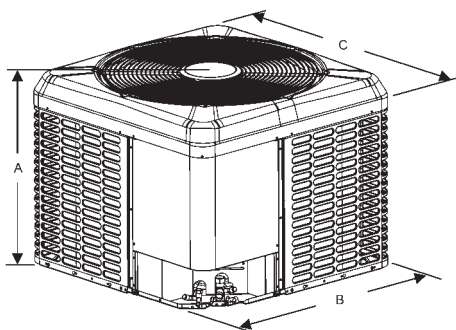


PHYSICAL AND ELECTRICAL DATA

MODEL	TC3B18 B21(H,S)	TC3B24 B21(H,S)	TC3B30 B21(H,S)	TC3B36 B21(H,S)	TC3B42 B21(H,S)	TC3B48 B21S	TC3B60 B21S	
Unit Supply Voltage	208-230V, 1ϕ, 60Hz							
Normal Voltage Range ¹	187 to 252							
Minimum Circuit Ampacity	9.6	12.3	14.2	19.9	21.9	28.5	34.3	
Max. Overcurrent Device Amps ²	15	20	20	30	35	50	60	
Min. Overcurrent Device Amps ³	15	15	15	20	25	30	35	
Compressor Type	Recip	Recip	Recip	Recip	Recip	Scroll	Scroll	
Compressor Amps	Rated Load	7.0	9.2	10.7	14.7	16.5	21.8	26.4
	Locked Rotor	45.0	45.0	57.0	78.0	88.0	117	134
Crankcase Heater	No	No	No	No	No	No	No	
Factory External Discharge Muffler	No	No	No	No	Yes	No	No	
HS Kit Required with TXV ⁴	Yes*	Yes*	Yes*	Yes*	Yes*	No	No	
Fan Diameter Inches	18	18	18	18	22	22	22	
Fan Motor	Rated HP	1/8	1/8	1/8	1/4	1/4	1/4	
	Rated Load Amps	0.80	0.80	0.80	1.50	1.30	1.30	
	Nominal RPM	1075	1075	1075	1100	850	850	
	Nominal CFM	1925	1950	2150	2575	2925	3225	
Coil	Face Area Sq. Ft.	8.26	9.78	11.07	12.37	12.22	13.83	
	Rows Deep	1	1	1	1	1	1	
	Fins / Inches	23	23	23	23	23	23	
Liquid Line Set OD (Field Installed)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	
Vapor Line Set OD (Field Installed) ⁵	3/4	3/4	3/4	3/4	7/8	7/8	1-1/8†	
Unit Charge (Lbs. - Oz.) ⁶	2 - 15	3 - 4	3 - 13	4 - 1	4 - 6	4 - 8	5 - 6	
Charge Per Foot, Oz.	0.62	0.62	0.62	0.62	0.67	0.67	0.75	
Operating Weight Lbs.	125	130	140	140	175	165	175	

Models with "H" on the end of the model number are shipped with a Hard Start Kit installed at the factory.

1. Rated in accordance with AHRI Standard 110-2012, utilization range "A"
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.
3. Dual element fuses or HACR circuit breaker. Minimum recommended overcurrent protection.
4. See Hard Start Kit Accessory Installation Manual for Hard Start Kit part number for each model.
5. For applications with non-standard vapor line sizes, see the "Applications & Accessories" section of this Technical Guide.
6. The Unit Charge is correct for the outdoor unit, smallest matched indoor unit, and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, add or subtract the amount of refrigerant, using the difference in actual lineset length (not the equivalent length) multiplied by the per foot value.



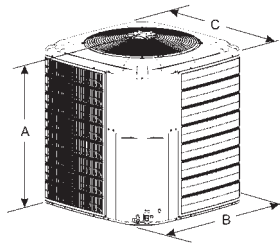
Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
TC3B18B21(H,S)	23-1/2	24	24	3/8	3/4
TC3B24B21(H,S)	26-3/4	24	24		
TC3B30B21(H,S)	30	24	24		
TC3B36B21(H,S)	33-1/4	24	24		
TC3B42B21(H,S)	26-3/4	29-1/4	29-1/4	7/8	7/8
TC3B48B21S	30	29-1/4	29-1/4		
TC3B60B21S	36-1/4	29-1/4	29-1/4		

† Adapter fitting must be field installed for the required 1-1/8" line set.
 All dimensions are in inches and are subject to change without notice.
 Overall height is from bottom of base pan to top of fan guard.
 Overall length and width include screw heads.



**RAC SERIES
SPLIT-SYSTEM AIR
CONDITIONERS
13 SEER – R-410A
1.5 THRU 5 NOMINAL TONS**

**MODELS:
RAC 18 THRU 60**



DESCRIPTION

The 13 SEER Series unit is the outdoor part of a versatile climate system. It is designed with a matching indoor coil component from Johnson Controls Unitary Products. Available for typical applications this climate system is supported with accessories and documents to serve specific functions.

WARRANTY

Standard 5-Years limited parts warranty.
Standard 5-Years limited compressor warranty.
Extended 10-Years limited parts and compressor warranty when product is registered online within 90 days of purchase for replacement or closing for new home construction.

FEATURES

- Small Footprint - Extremely lightweight with a compact footprint, it is a perfect fit for any application.
- Quality Condenser Coils - The coil is constructed of aluminum microchannel tubing and enhanced aluminum fins for reduced size and increased efficiency.
- Coil Protection - Coils are protected from damage by a slotted, stamped steel coil guard.
- Optional Factory E-Coat - Available ElectroFin® or factory approved equivalent (contact the factory for details) coated coil on select models.
- Protected Compressor - Compressors are protected internally by a high pressure relief valve and a temperature sensor, and exter-

nally by the system high pressure switch. A factory installed liquid line filter-drier further protects the compressor against moisture and debris.

- Environmentally Friendly Refrigerant - The R-410A refrigerant delivers environmentally friendly performance with zero ozone depletion.
- Durable Finish - An automotive quality finish provides the ultimate protection from harmful UV rays and rust-creep, ensuring a long-lasting, high quality appearance. A powder paint top coat is applied over a baked on primer using a galvanized, zinc coated steel base material.
- Lower Installed Cost - Installation time and costs are reduced by easy power and control wiring connections. The unit is factory charged for a 15-foot lineset. The small base dimension means less space is required on the ground or roof.
- Top Discharge - Warm air from the top mounted fan is blown up, away from the structure and any landscaping. This allows compact location on multi-unit applications.
- Low Operating Sound Levels - The upward air flow carries the normal operating noise away from the living area. The rigid top panel effectively isolates any motor sound. Isolator mounted compressor and the condenser coil muffle the normal fan motor and compressor operating sounds.
- Low Maintenance - Long life, permanently lubricated motorbearings need no annual servicing.
- Easy Service Access - Fully exposed refrigerant connections and a single panel covering the electrical controls make for easy servicing of the unit.
- Secured Service Valves - Secured, re-usable service valves are provided on both the liquid and vapor sweat connections for ease of evacuating and charging.

Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
18	28-1/4	24	24	3/8"	3/4"
24	28-1/4	24	24		
30	28-1/4	24	24		
36	28-1/4	29-1/2	29-1/2		
42	30-1/4	29-1/2	29-1/2		
48	30-1/4	29-1/2	29-1/2	7/8"	
60	32-1/4	34	34		

PHYSICAL AND ELECTRICAL DATA

MODEL	RAC13J18 4S21	RAC13J24 4S21	RAC13J30 4S21	RAC13J36 4S21	RAC13J42 4S21	RAC13J48 4S21	RAC13J60 4S21
Unit Supply Voltage	208-230V, 1ϕ, 60Hz						
Normal Voltage Range	187 to 252						
Minimum Circuit Ampacity	10.0	12.4	14.7	17.9	21.5	21.1	34.5
Max. Overcurrent Device Amps	15	20	25	30	35	35	60
Min. Overcurrent Device Amps	15	15	15	20	25	25	35
Compressor Amps	Type	Rotary	Recip	Recip	Recip	Recip	Scroll
	Rated Load	7.6	9.3	10.6	13.1	16	26.4
	Locked Rotor	40	43	54	74	88	134
Crankcase Heater	No	No	No	No	No	No	No
Factory External Discharge Muffler	No	No	No	No	No	Yes	No
Factory External Check Valve	No	No	No	No	No	No	No
HS Kit Required with TXV ⁴	Yes	Yes	Yes	Yes	Yes	Yes	No
Fan Diameter Inches	17.5	17.5	17.5	22.0	22.0	22.0	24.0
Fan Motor	Rated HP	1/12	1/8	1/4	1/4	1/4	1/4
	Rated Load Amps	0.5	0.8	1.4	1.5	1.5	1.5
	Nominal RPM	1100	1075	1100	850	850	850
	Nominal CFM	1400	1950	2050	3200	3050	2950
Coil	Face Area Sq. Ft.	9.60	9.60	9.60	13.07	14.16	18.68
	Rows Deep	1	1	1	1	1	1
	Fin / Inches	23	23	23	23	23	23
Liquid Line Set OD (Field Installed)	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Vapor Line Set OD (Field Installed)	5/8	3/4	3/4	3/4	7/8	7/8	7/8
Unit Charge (Lbs. - Oz.)	3 - 3	3 - 13	3 - 14	4 - 9	4 - 10	4 - 9	5 - 8
Charge Per Foot, Oz.	0.58	0.62	0.62	0.62	0.67	0.67	0.67
Operating Weight Lbs.	97	129	131	145	164	173	220



ADD-ON COILS

FOR USE WITH SPLIT-SYSTEM
COOLING & HEAT PUMPS

MODELS: CF, CM, CU
600 - 2000 CFM 2 - 5 TON COILS



**MULTI-POSITION
FULL CASSED
CM**



**UPFLOW/DOWNFLOW
FULL CASSED
CF**



**UNCASSED
UPFLOW
CU**

DESCRIPTION

MaxAlloy™ aluminum indoor coils are specially designed to be installed with UPG furnaces or modular air handlers as part of a matched air conditioning or heat pump system.

UPG indoor coils can be applied with indoor orifices and/or TXVs according to the application. Most indoor coil models are available as "flex" coils for installation of the specific expansion device in the field.

CF series full cased coils are suitable for upflow or downflow applications.

CM series full cased coils have the added flexibility of multi-position installation. They are shipped as upflow / horizontal left and are easily convertible to downflow / horizontal right.

CU series uncased coils are designed for upflow-only applications on top of furnaces.

If CF or CM coils are installed without the casing, a Diverter Shroud kit is required, as shown on the accessories page. CU coils include a factory-installed Diverter Shroud.

FEATURES

Cabinet – Constructed of heavy gauge galvanized steel with a primer and finish coat providing a high quality corrosion resis-tant finish.

MaxAlloy™ Coil – Long life aluminum coils built to deliver last-ing performance, efficiency and reliability.



Advanced Distributor Products®

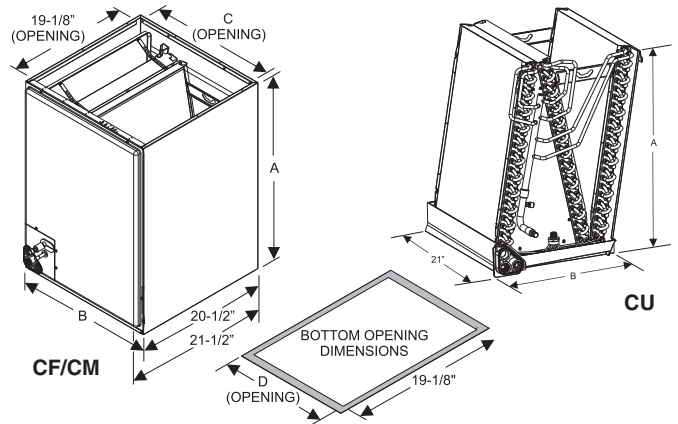


HE



YE

Models	Dimensions		Refrigerant Connections	
	Height	Width	Line Size	
	A	B	Liquid	Vapor
HE31124A	13	13	3/8	3/4
HE7J130A	15	13		
HE7J130A	15	15-1/2		
HE7J136A	15	15-1/2		
HE35148A	19	17	7/8	7/8
HE2K160A	23	20		
YE31124E	16-1/2	14-1/2	3/8	3/4
YE7J130E	16-1/2	14-1/2		
YE7J136E	16-1/2	17-1/2		
YE7J136E	16-1/2	21-1/2		
YE34142E	20-1/2	21	7/8	7/8
YE35148E	25-1/2	21		
YE2K160E	25-1/2	21		
YE2K160E	25-1/2	24		



Dimensions - CF Upflow/Downflow Full Cased Coils

Models ¹	Dimensions				Refrigerant Connections	
	Height	Width	Opening	Widths	Liquid	Vapor
	A	B	C	D		
CF36A	25-1/2	14-1/2	13-1/2	13-1/2	3/8	3/4
CF36B	25-5/8	17-1/2	16-1/2	16-1/2		
CF36C	23	21	20	20		
CF48C	27	21	20	20		
CF60C	33	21	20	20	7/8	7/8
CF60D	32-3/4	24-1/2	23-1/2	23-1/2		
CF64D	32-3/4	24-1/2	23-1/2	23-1/2		

Dimensions - CM Multi-Position Full Cased Coils

Models	Dimensions				Refrigerant Connections	
	Height	Width	Opening	Widths	Liquid	Vapor
	A	B	C	D		
CM24A	19-1/2	14-1/2	13-1/2	13-1/2	3/8	3/4
CM24B	19	17-1/2	16-1/2	16-1/2		
CM30A	25-1/2	14-1/2	13-1/2	13-1/2		
CM30B	23	17-1/2	16-1/2	16-1/2		
CM36B	25-5/8	17-1/2	16-1/2	16-1/2	7/8	7/8
CM48C	33	21	20	20		
CM48D	32-3/4	24-1/2	23-1/2	23-1/2		
CM60C	33	21	20	20		
CM60D	32-3/4	24-1/2	23-1/2	23-1/2		

Dimensions - CU Uncased Coils

Models	Dimensions		Refrigerant Connections	
	Height	Width	Line Size	
	A	B	Liquid	Vapor
CU24A	15-3/8	13-3/8	3/8	3/4
CU24B	15-1/4	16-3/8		
CU30B	19-1/2	16-3/8		
CU36B	21-1/2	16-3/8		
CU36C	21-1/8	19-7/8	7/8	7/8
CU42C	23-1/8	19-7/8		
CU48C	25-1/8	19-7/8		
CU60C	29-1/4	19-7/8		



2 - 5 TON
OPTIONAL ELECTRIC HEATERS

DESCRIPTION

This unique modular system allows the flexibility to handle any application. These versatile coils and blowers may be used for upflow, down-flow, or horizontal left or right applications. They may be combined to function as a cooling only unit or with a heat pump including electric heat for 1 and 3 phase applications. The blower and electric heater could be used as stand alone electric furnaces.

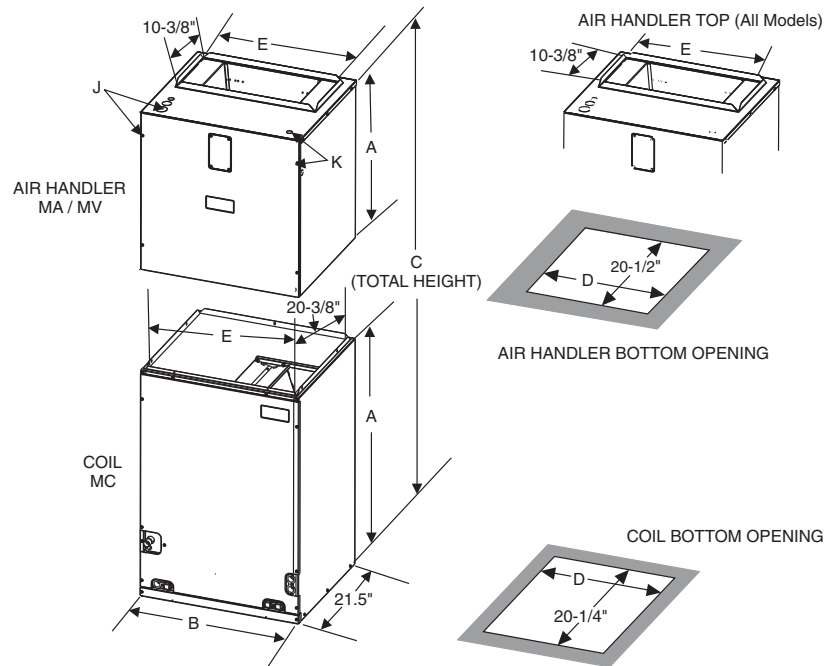
FEATURES

BLOWERS - Models to match any air flow or voltage requirement. The compact size allows easy installation. Blowers are sized to deliver design air quantity both efficiently and quietly. The direct-drive, multi-speed blower motors provide a selection of air quantities to match any application. All models include a one-minute blower off delay as standard to enhance system efficiency ratings. The durable, pre-painted steel protects the unit against rust and corrosion.

COILS - Staggered rows of rifled copper tubes are mechanically expanded into enhanced surface aluminum fins to provide high heat transfer and long-lasting quality. The MC multi-position coils may be used for upflow, downflow, and horizontal left or right applications. Coil cabinets are insulated with 3/4" foil face insulation to prevent sweating.

ELECTRIC HEATERS - Both single and three phase electric heater models are available to match any requirement. All heaters include nickel-chromium elements with a 5-year limited warranty on 1 Ø heating elements and 1 year limited warranty on 3 Ø heating elements. Sequential operation is provided to control heaters in all models. Circuit breakers are used in 208/230 volt, single-phase heaters of 15 KW and larger.

Models equipped with circuit breakers may be altered in the field to use multi-source power supply. Over-temperature limit switches provide protection from air-flow loss with fusible link backup protection.



DIMENSIONS

Models	Dimensions					Wiring K.O.'s ¹		Refrigerant Connections	
	A Height	B Width	C Total Height	D	E	J Power	K Control	Line Size Liquid	Vapor
MA08B	25	17-1/2	47 to 57 Depending on combination	16-1/2	14-1/2	7/8 (1/2), 1-3/8(1)	7/8 (1/2)	—	—
MA12B ²	25	17-1/2		16-1/2	14-1/2	7/8 (1/2), 1-3/8(1)		—	—
MA14D	25	24-1/2		23-1/2	21-1/2	7/8 (1/2), 1-3/8(1)		—	—
MA16C ²	25	21		20	18	1-23/32, (1-1/4)		—	—
MA20D ²	25	24-1/2		23-1/2	21-1/2	1-31/32, (1-1/2)	—	—	
MC24B**H	26.5	17-1/2		16-1/2	16-3/8	—	—	3/8	7/8
MC30B**H	26.5	17-1/2		16-1/2	16-3/8	—	—		
MC36B**H	26.5	17-1/2		16-1/2	16-3/8	—	—		
MC36C**H	26.5	21		20	19-7/8	—	—		
MC42B**H	32	17-1/2		16-1/2	16-3/8	—	—		
MC42C**H	32	21	20	19-7/8	—	—			
MC48C**H	32	21	20	19-7/8	—	—			
MC48D**H	32	24-1/2	23-1/2	23-3/8	—	—			
MC60D**H	32	24-1/2	23-1/2	23-3/8	—	—			

¹ Parenthesis indicate conduit size.

² May be either 208/230-1-60 or 460-3-60.

** - 2A, 2C indicates TXV

PHYSICAL AND ELECTRICAL DATA

MA Models		MA08B21	MA12B21	MA12B41	MA14D21
Blower - Diameter x Width		10 x 9	10 x 9	10 x 9	10 x 10
Motor	HP	1/4 HP	3/4 HP	3/4 HP	1/2 HP
	Nominal RPM	1075	1075	1075	1075
Voltage		208 / 230	208 / 230	460	208 / 230
Amps	Full Load	1.5	3.5	2.3	2.4
Filter	Type	DISPOSABLE OR PERMANENT			
	Size	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	22 x 20 x 1
	Permanent Type Kit	1PF0601BK	1PF0601BK	1PF0601BK	1PF0603BK
Filter Rack		1FR0717	1FR0717	1FR0717	1FR0724
Shipping / Operating Weight (lbs.)		128 / 122	132 / 126	132 / 126	162 / 156

MA Models		MA16C21	MA16C41	MA20D21	MA20D41
Blower - Diameter x Width		10 x 10	10 x 10	11 x 10	11 x 10
Motor*	HP	1 HP	1 HP	1 HP	1 HP
	Nominal RPM	1075	1075	1075	1075
Voltage		208 / 230	460	208 / 230	460
Amps	Full Load	4.0	2.6	7.4	3.7
Filter*	Type	DISPOSABLE OR PERMANENT			
	Size	20 x 20 x 1	20 x 20 x 1	22 x 20 x 1	22 x 20 x 1
	Permanent Type Kit	1PF0602BK	1PF0602BK	1PF0603BK	1PF0603BK
Filter Rack		1FR0721	1FR0721	1FR0724	1FR0724
Shipping / Operating Weight (lbs.)		139 / 133	139 / 133	162 / 156	162 / 156

*115v Motors also available

† Field Supplied.

ELECTRICAL DATA – 208/230-1-60

MA Models	Heater Models*	MAX. STATIC & MIN. CFM		Total Heat ¹				KW Staging					
		Static	Tap	KW		MBH		W1 Only		W2 Only		W1 + W2	
				208V	240V	208V	240V	208V	240V	208V	240V	208V	240V
MA08BN2	4HK*6500206	0.5	Lo	1.9	2.5	6.4	8.5	1.9	2.5	1.9	2.5	1.9	2.5
	4HK*6500506	0.5	Lo	3.6	4.8	12.3	16.4	3.6	4.8	3.6	4.8	3.6	4.8
	4HK*6500806	0.5	Med	5.6	7.5	19.2	25.6	2.8	3.75	5.6	7.5	5.6	7.5
	4HK*6501006	0.5	Hi	7.2	9.6	24.6	32.8	3.6	4.8	7.2	9.6	7.2	9.6
MA12BN2	4HK*6500506	0.5	Lo	3.6	4.8	12.3	16.4	3.6	4.8	3.6	4.8	3.6	4.8
	4HK*6500806	0.5	Med	5.6	7.5	19.2	25.6	2.8	3.75	5.6	7.5	5.6	7.5
	4HK*6501006	0.5	Med	7.2	9.6	24.6	32.8	3.6	4.8	7.2	9.6	7.2	9.6
	4HK165N1506	0.5	Med	10.8	14.4	36.9	49.1	3.6	4.8	7.2	9.6	10.8	14.4
MA14DN2	4HK*6500506	0.5	Lo	3.6	4.8	12.3	16.4	3.6	4.8	3.6	4.8	3.6	4.8
	4HK*6500806	0.5	Lo	5.6	7.5	19.2	25.6	2.8	3.75	5.6	7.5	5.6	7.5
	4HK*6501006	0.5	Med	7.2	9.6	24.6	32.8	3.6	4.8	7.2	9.6	7.2	9.6
	4HK16501506	0.5	Med	10.8	14.4	36.9	49.1	3.6	4.8	7.2	9.6	10.8	14.4
	4HK16501806	0.5	Hi	13.2	17.6	45.1	60.1	3.3	4.4	6.6	8.8	13.2	17.6
	4HK16502006	0.5	Hi	14.4	19.2	49.2	65.5	3.6	4.8	7.2	9.6	14.4	19.2
MA16CN2	4HK*6500506	0.5	Lo	3.6	4.8	12.3	16.4	3.6	4.8	3.6	4.8	3.6	4.8
	4HK*6500806	0.5	Lo	5.6	7.5	19.2	25.6	2.8	3.75	5.6	7.5	5.6	7.5
	4HK*6501006	0.5	Med	7.2	9.6	24.6	32.8	3.6	4.8	7.2	9.6	7.2	9.6
	4HK16501506	0.5	Med	10.8	14.4	36.9	49.1	3.6	4.8	7.2	9.6	10.8	14.4
	4HK16501806	0.5	Hi	13.2	17.6	45.1	60.1	3.3	4.4	6.6	8.8	13.2	17.6
	4HK16502006	0.5	Hi	14.4	19.2	49.2	65.5	3.6	4.8	7.2	9.6	14.4	19.2
MA20DN2	4HK*6500806	0.5	Lo	5.6	7.5	19.2	25.6	2.8	3.75	5.6	7.5	5.6	7.5
	4HK*6501006	0.5	Lo	7.2	9.6	24.6	32.8	3.6	4.8	7.2	9.6	7.2	9.6
	4HK16501506	0.5	Med	10.8	14.4	36.9	49.1	3.6	4.8	7.2	9.6	10.8	14.4
	4HK16501806	0.5	Med	13.2	17.6	45.1	60.1	3.3	4.4	6.6	8.8	13.2	17.6
	4HK16502006	0.5	Med	14.4	19.2	49.2	65.5	3.6	4.8	7.2	9.6	14.4	19.2
	4HK16502506	0.5	Med	18.0	24.0	61.5	81.9	3.6	4.8	10.8	14.4	18.0	24.0

¹ See conversion Page 7.

* May be 0 (no breaker) or 1 (with breaker).

SINGLE PIECE PSC AIR HANDLERS

**FOR USE WITH
SPLIT-SYSTEM COOLING
& HEAT PUMPS**

MODELS: AP SERIES



DESCRIPTION

This fan coil line offers the ultimate in application flexibility. This unit may be used for upflow, downflow, horizontal right, or horizontal left applications.

All JCI Unitary Products air handlers and coils can use a TXV to provide our customers with the optimum performance and refrigerant control. Single piece air handlers are available with "Flex-coils" (without a factory installed metering device). For added flexibility, an R-22 or R-410A TXV or piston must be field installed to meet the requirement of the desired refrigerant. Some models available with factory installed TXV.

WARRANTY

Standard 5-year limited parts warranty.

Extended 10-year limited parts warranty when product is registered online within 90 days of purchase for replacement or closing for new home construction.

FEATURES

RC² - Rigid Case Construction interior endoskeleton for structural support, smooth side, and locks in insulation.

Powder-painted - G30 galvanized steel case provide a coated edge that resists corrosion and rust creep.

MaxAlloy™ Coil - Long life aluminum coils built to deliver lasting performance, efficiency and reliability.

Quality Construction - Structural components are made of Aluminum or G90 galvanized steel to prevent corrosion.

Improved Insulation Design - Single piece with no external screws to reduce thermal transmission paths to prevent sweating. Foil faced insulation for ease of cleaning.

Thermostatic Expansion Valve - The accessory chatteff style TXV provides easy installation to convert the indoor coil to the required refrigerant that does not require brazing to replace or install. Some models are available with factory installed TXV.

Case Depth - These models have 20.5" casing which provide ease of attic access and tight applications.

Thermoset Drain Pan - Positive slope for drainage to reduce cause for potential mold or contaminants.

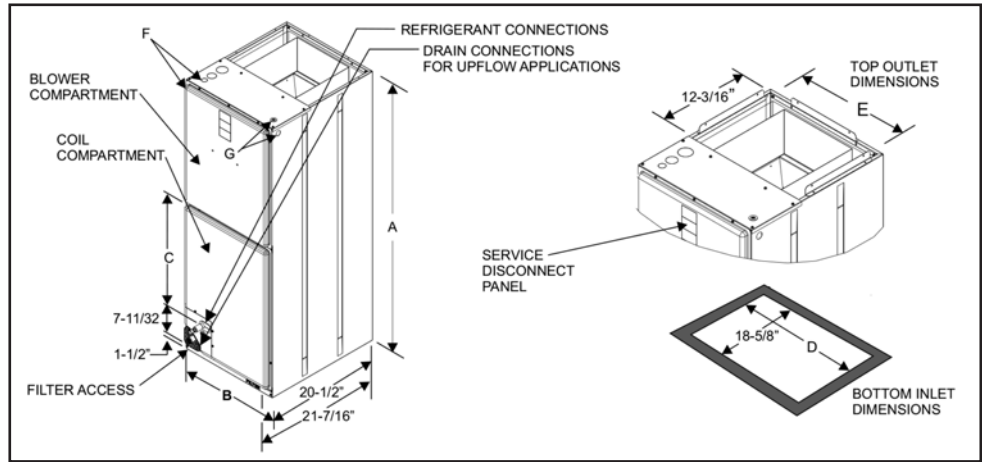
Factory Sealed - Achieves 2% or less total airflow leakage rate at duct leakage test conditions in positive and negative pressure for system airflow verification.

Enhanced Filter Rack - All models have integrated internal filter racks provided for use with 1" thick standard size filters.

Electric Heat Kits - 6HK series of field installed electric heat kits are available for installation-friendly and easy service applications.

Blowers - All models use direct-drive, multi-speed PSC motors.

DIMENSIONS & DUCT CONNECTION DIMENSIONS



DIMENSIONS

Models	Dimensions ¹					Wiring Knockouts ²		Refrigerant Connections Line Size	
	A	B	C	D	E	F	G	Liquid	Vapor
	Height	Width				Power (Conduit)	Control (Conduit)		
AP18BX21	41	17-1/2	12-7/8	14-1/4	16-1/2	7/8 (1/2) 1-3/8 (1) 1-23/32 (1-1/4)	7/8 (1/2)	3/8	3/4
AP24BX21	41	17-1/2	12-7/8	14-1/4	16-1/2				
AP30BX21	47-1/2	17-1/2	19-1/2	14-1/4	16-1/2				
AP36BX21	47-1/2	17-1/2	19-1/2	14-1/4	16-1/2				
AP48CX21	51-1/2	21	22-5/8	17-3/4	20				
AP60DX21	55-1/2	24-1/2	26-5/8	21-1/4	23-1/2				

1. All dimensions are in inches.
2. Knockout size (conduit size in parentheses).

PHYSICAL & ELECTRICAL DATA - COOLING ONLY

Models	18B	24B	30B	36B	48C	60D	
Blower - Diameter x Width	10 x 8	10 x 8	10 x 8	10 x 8	10 x 10	10 x 10	
Motor	HP	1/8 HP	1/4 HP	1/3 HP	1/2 HP	1 HP	
	Nominal RPM	867	850	950	1085	1007	
Voltage	208/230	208/230	208/230	208/230	208/230	208/230	
Full Load Amps @230V	1.0	1.4	2.3	2.6	2.9	4.1	
Filter ¹	DISPOSABLE OR PERMANENT						
	Type						
	Size	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	20 x 20 x 1	22 x 20 x 1
	Permanent Type Kit	1PF0601	1PF0601	1PF0601	1PF0601	1PF0602	1PF0603
Shipping / Operating Weight (lbs.)	91/85	93/87	119/113	119/113	158/150	180/170	

1. Field supplied.



SINGLE PIECE PSC AIR HANDLERS

ELECTRICAL DATA FOR SINGLE SOURCE POWER SUPPLY: 208/230-1-60

Air Handler Models	Heater Models	Heater Amps @240V	Field Wiring			
			Min. Circuit Ampacity		MOP. ¹	
			208V	230V	208V	230V
18B	6HK16500206	10	12.2	13.3	15	15
	6HK16500506	20	23.0	25.3	25	30
	6HK16500806	32	36.2	40.0	40	40
	6HK16501006	40	44.6	49.2	45	50
24B	6HK16500206	10	12.6	13.7	15	15
	6HK16500506	20	23.4	25.7	25	30
	6HK16500806	32	36.6	40.3	40	45
	6HK16501006	40	45.0	49.6	45	50
30B	6HK16501306	52	58.2	64.3	60	70
	6HK16500206	10	13.7	14.8	15	15
	6HK16500506	20	24.5	26.8	25	30
	6HK16500806	32	37.7	41.5	40	45
	6HK16501006	40	46.1	50.7	50	60
	6HK16501306	52	59.4	65.4	60	70
36B	6HK16501506	60	67.8	74.6	70	80
	6HK16500206	10	14.1	15.2	15	20
	6HK16500506	20	24.9	27.2	25	30
	6HK16500806	32	38.1	41.8	40	45
	6HK16501006	40	46.5	51.1	50	60
	6HK16501306	52	59.7	65.8	60	70
	6HK16501506	60	68.2	75.0	70	80
	6HK16501806	72	81.4	89.7	90	90
48C	6HK16502006	80	89.8	98.9	90	100
	6HK16500206	10	14.4	15.6	15	20
	6HK16500506	20	25.3	27.5	30	30
	6HK16500806	32	38.5	42.2	40	45
	6HK16501006	40	46.9	51.5	50	60
	6HK16501306	52	60.1	66.1	70	70
	6HK16501506	60	68.5	75.4	70	80
	6HK16501806	72	81.8	90.0	90	90
60D	6HK16502006	80	90.2	99.3	90	100
	6HK16500206	10	15.9	17.1	20	20
	6HK16500506	20	26.8	29.0	30	30
	6HK16500806	32	40.0	43.7	40	45
	6HK16501006	40	48.4	53.0	50	60
	6HK16501306	52	61.6	67.6	70	70
	6HK16501506	60	70.0	76.9	70	80
	6HK16501806	72	83.3	91.5	90	100

1. MOP = Maximum Overcurrent Protection device; must be HACR type service disconnect or time delay fuse. Refer to the latest edition of the National Electric Code or in Canada the Canadian electrical Code and local codes to determine correct wire sizing.

SPLIT-SYSTEM EVAPORATOR BLOWERS

**R-410A
SPLIT-SYSTEM
AIR-COOLED CONDENSING UNITS
AND AIR HANDLERS**

**YH-07 thru -20 and YJ-10 thru -20
CONDENSING UNIT MODELS**

**NH-07 thru -20 and NJ-10 thru -20
AIR HANDLING UNIT MODELS**

**7.5 - 20 Ton
60 Hertz**

DESCRIPTION

UP condensing units and heat pumps are completely assembled, piped and wired at the factory to provide a single-piece unit for shipment and rigging. Each unit is pressurized with a holding charge of refrigerant R-410A for storage and/or shipping.

The compact design, clean styling, small footprint, and quiet operation make these condensing units and heat pumps suitable for almost any outdoor location. On rooftops... because they weigh much less than a single package unit of similar capacity and are much easier to rig and support. On the ground... because the footprint is compact allowing a variety of applications.

Both the UP condensing units and heat pumps are equipped with reliable Simplicity® microprocessor controls to assure proper operation and unit protection for long product life. Products from 7 to 20 tons are available in single or dual (2 or 4 pipe) refrigerant circuits for redundancy in operation and various application choices such as one outdoor unit matched with two indoor units.

The UP air handling units are completely assembled units, including a well-insulated cabinet, a DX cooling coil with copper tubing, aluminum fins, expansion valve(s), distributor(s), 2" throwaway filters, a centrifugal blower, a blower motor, an adjustable belt drive, a blower motor contactor and a small holding charge of refrigerant R-410A.

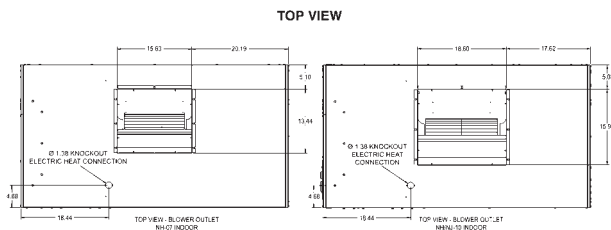
Units are shipped in the vertical position ready for field installation, but can be easily converted to horizontal position. An added benefit of the UP air handling units is they are designed to operate with either a condensing unit or a heat pump and no field modification or special unit is required for heat pump applications.



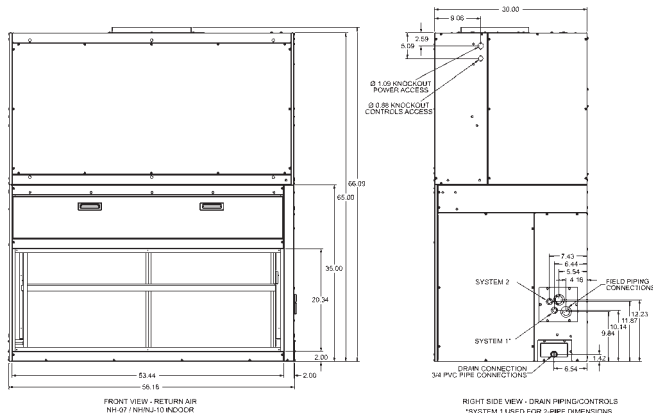
NH/NJ Air Handlers



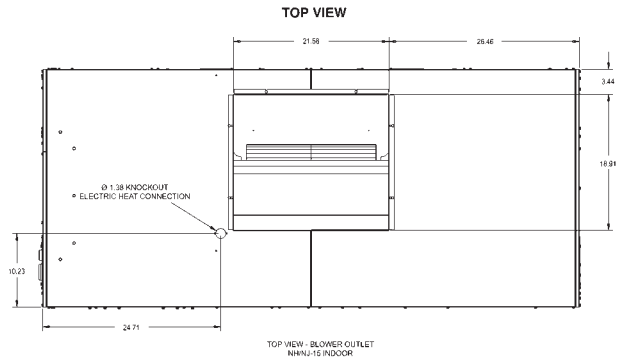
YH/YJ Outdoor Units



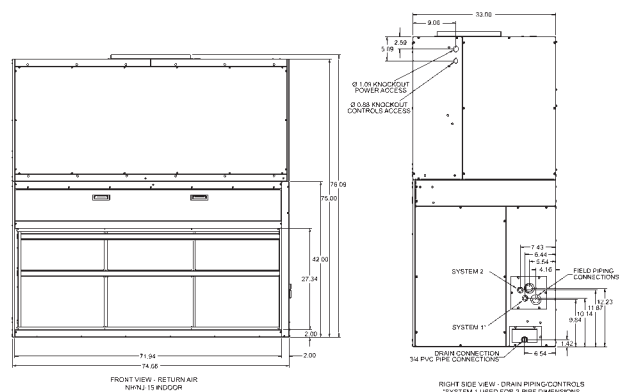
FRONT AND SIDE VIEW



Unit Dimensions NH-07 / NH/NJ-10



FRONT AND SIDE VIEW

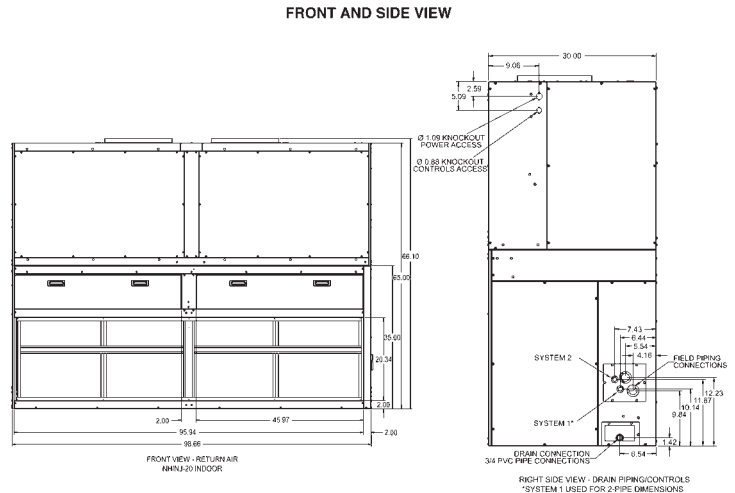
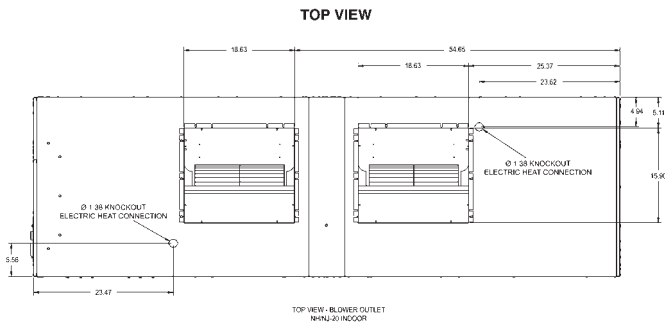


Unit Dimensions NH/NJ-15

**SPLIT-SYSTEM
EVAPORATOR BLOWERS**

Indoor Unit Physical Data

Component	Models						
	NH-07	NH-10	NJ-10	NH-15	NJ-15	NH-20	NJ-20
Nominal Tonnage	7 1/2	10	10	15	15	20	20
DIMENSIONS (inches)							
Length	30.0	30.0	30.0	33.0	33.0	30.0	30.0
Width	56.0	56.0	56.0	74.5	74.5	98.5	98.5
Height	65.0	65.0	65.0	75.0	75.0	65.0	65.0
WEIGHTS (lb)							
Unit Shipping	405	512	512	681	681	874	874
Unit Operating With							
Standard Motor and Drive	381	468	468	632	632	816	816
High Static Motor and Drive	385	492	492	661	661	854	854
INDOOR BLOWER (Forward Curve)							
Diameter x Width	12 x 12	15 x 15	15 x 15	18 x 18	18 x 18	15 x 15	15 x 15
Quantity	1	1	1	1	1	2	2
INDOOR COIL							
Face area (Sq. Ft.)	10.6	10.6	10.6	18.3	18.3	20.0	20.0
Rows	3	4	4	3	4	4	3
Fins per inch	15	15	15	15	15	15	15
Tube diameter	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Circuitry Type	Interlaced	Interlaced	Interlaced	Interlaced	Interlaced	Interlaced	Interlaced
Refrigerant Control	TXV	TXV	TXV	TXV	TXV	TXV	TXV
Operating Charge (lb)	4	6	6	10	10	10	10
SYSTEM DATA							
No. Refrigeration Circuits	1	1	2	1	2	1	2
Suction Line OD (in.)	1 1/8	1 3/8	1 1/8	1 5/8	1 1/8	1 5/8	1 3/8
Liquid Line OD (in.)	5/8	7/8	5/8	7/8	5/8	7/8	7/8
FILTERS							
Size and Quantity Per	16 x 25 x 2	4	4	---	---	8	8
Model (In.)	20 x 24 x 2	---	---	---	6	6	---
FACE AREA (SQ. FT.)							
Size and Quantity Per	16 x 25 x 4	4	4	---	---	8	8
Model (In.)	18 x 24 x 4	---	---	---	6	6	---
FACE AREA (SQ. FT.)							
	11.1	11.1	11.1	18.0	18.0	22.2	22.2

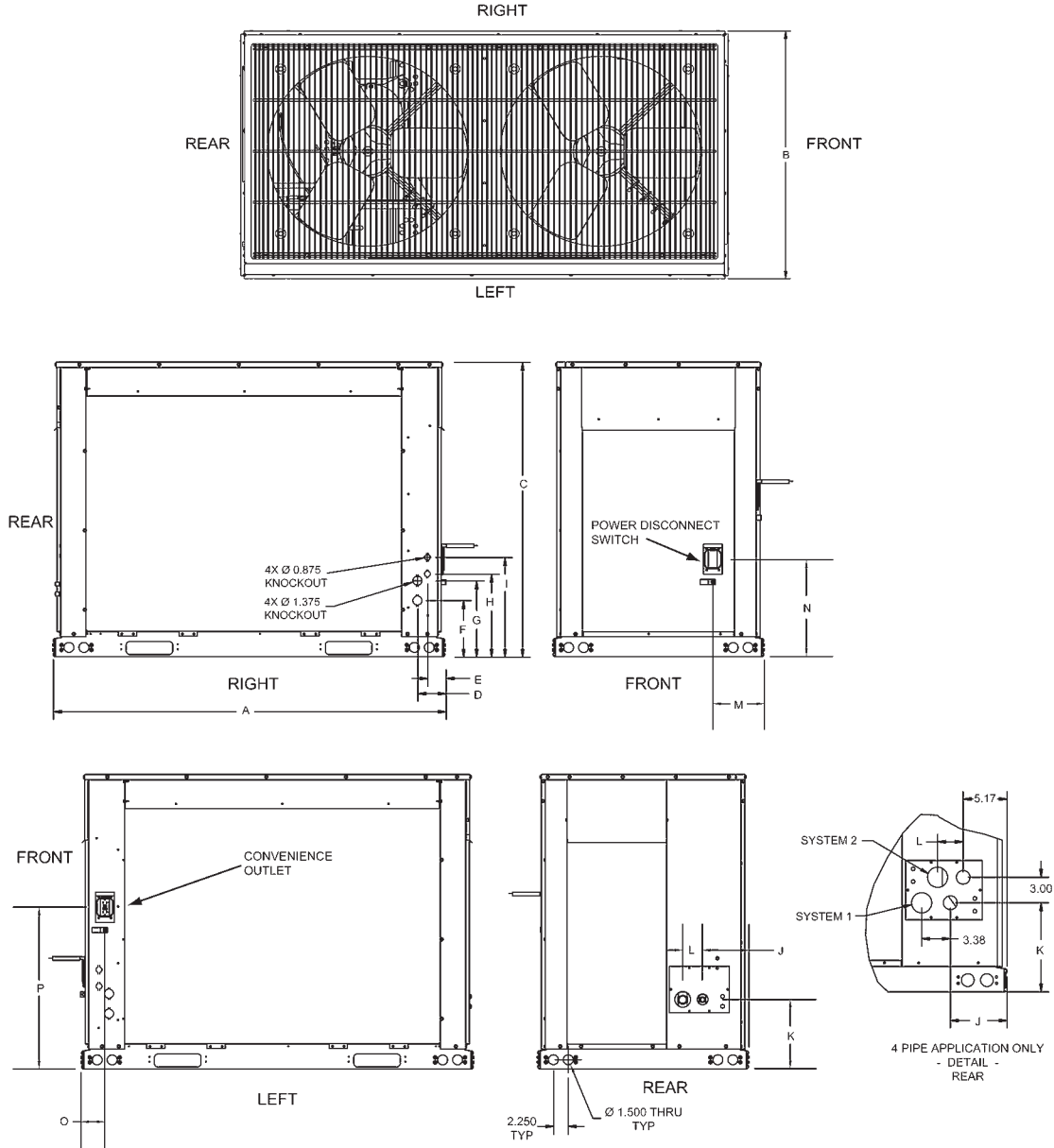


Unit Dimensions NH/NJ-20

**SPLIT-SYSTEM
 EVAPORATOR BLOWERS**
Outdoor Units Physical Data

Component	Models								
	YH-07	YH-10	YJ-10	YH-12	YJ-12	YH-15	YJ-15	YH-20	YJ-20
Nominal Tonnage	7.5	10	10	12.5	12.5	15	15	20	20
REFRIGERANT									
Refrigerant type	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
Holding charge (lb)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Operating Charge (lb)									
System #1	4.7	6.5	3.3	9.6	4.8	10.8	5.4	12.8	6.4
System #2	---	---	3.3	---	4.8	---	5.4	---	6.4
DIMENSIONS (inches)									
Length	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1
Width	31.9	31.9	31.9	31.9	31.9	64.1	64.1	64.1	64.1
Height	44.5	50.0	50.0	50.0	50.0	44.5	44.5	50.0	50.0
WEIGHTS (lb)									
Shipping	330	450	445	450	445	685	685	715	715
Operating	325	445	440	445	440	675	675	710	710
COMPRESSORS									
Type	Single Scroll	Tandem Scroll	Single Scroll	Tandem Scroll	Tandem Scroll	Tandem Scroll	Tandem Scroll	Tandem Scroll	Tandem Scroll
Quantity	1	1	2	1	1	1	1	1	1
Nominal Capacity (Tons)									
System #1	7.5	10	5	12.5	6.3	15	7.5	20	10
System #2	---	---	5	---	6.3	---	7.5	---	10
Capacity Stages									
System #1	1	2	1	2	1	2	1	2	1
System #2	---	---	1	---	1	---	1	---	1
SYSTEM DATA									
No. Refrigeration Circuits	1	1	2	1	2	1	2	1	2
Suction Line OD (in.)	1 1/8	1 3/8	1 1/8	1 3/8	1 1/8	1 5/8	1 1/8	1 5/8	1 3/8
Liquid Line OD (in.)	5/8	7/8	5/8	7/8	5/8	7/8	5/8	7/8	7/8
OUTDOOR COIL DATA									
Face area (Sq. Ft.)	23.8	29.0	29.0	29.0	29.0	47.5	47.5	58.1	58.1
Rows	1	1	1	1	1	1	1	1	1
Fins per inch	23	23	23	23	23	23	23	23	23
Tube diameter (in./MM)	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18	0.71 / 18
Circuitry Type	2-pass	2-pass	2-pass	2-pass	2-pass	2-pass	2-pass	2-pass	2-pass
Refrigerant Control	---	---	---	---	---	---	---	---	---
CONDENSER FAN DATA									
No. Fans / Diameter (in.)	2/24	2/24	2/24	4/24	4/24	4/24	4/24	4/24	4/24
Type	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Drive type	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct	Direct
No. speeds	1	1	1	1	1	1	1	1	1
Number of motors									
System #1	2	2	2	2	2	4	2	4	2
System #2	---	---	---	---	---	---	2	---	2
Motor HP (ea.)	1/3	3/4	3/4	3/4	3/4	1/3	1/3	3/4	3/4
Rotation	CW	CW	CW	CW	CW	CW	CW	CW	CW
RPM	850	850	1100	1100	1100	850	850	1100	1100
Nominal CFM									
System #1	7500	9800	9800	9800	9800	15000	7500	19600	9800
System #2	---	---	---	---	---	---	7500	---	9800

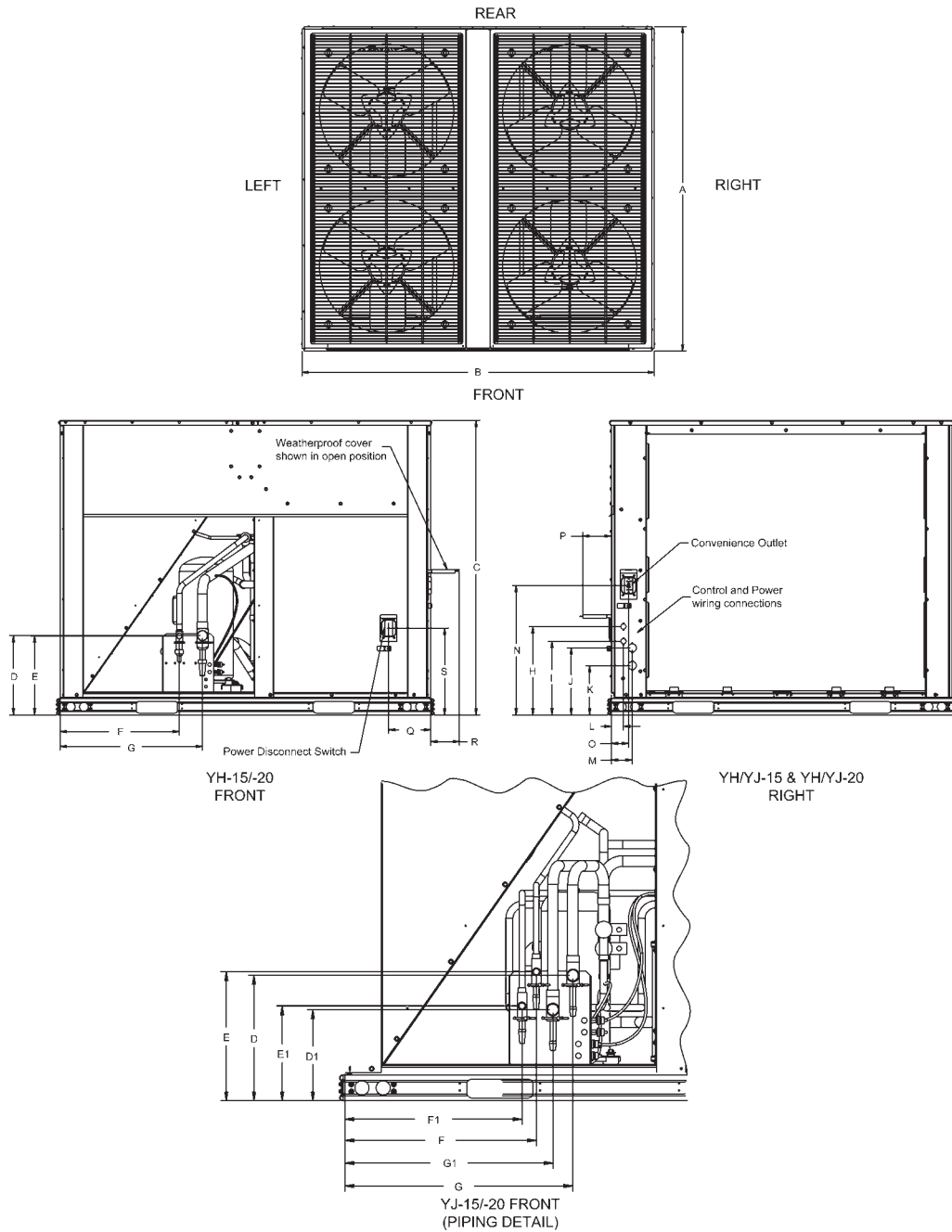
**SPLIT-SYSTEM
EVAPORATOR BLOWERS**



Unit Dimensions YH-07, YH/YJ-10, YH/YJ-12

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
YH-07	59.1	31.9	44.5	4.2	2.7	8.5	11.4	12.4	14.9	6.9	10.5	3.0	7.7	14.7	3.3	24.5
YH-10	59.1	31.9	50.0	4.2	2.7	8.5	11.4	12.4	14.9	6.9	10.5	3.0	7.7	14.7	3.3	24.5
YJ-10	59.1	31.9	50.0	4.2	2.7	8.5	11.4	12.4	14.9	6.9	10.5	3.0	7.7	14.7	3.3	24.5
YH-12	59.1	31.9	50.0	4.2	2.7	8.5	11.4	12.4	14.9	6.9	10.5	3.0	7.7	14.7	3.3	24.5
YJ-12	59.1	31.9	50.0	4.2	2.7	8.5	11.4	12.4	14.9	6.9	10.5	3.0	7.7	14.7	3.3	24.5

**SPLIT-SYSTEM AIR-COOLED
CONDENSING UNITS**



Unit Dimensions YH/YJ-15, YH/YJ-20

MODEL	A	B	C	D	DI	E	EI	F	FI	G	GI	H	I	J	K	L	M	N	O	P	Q	R	S
YH-15	59.1	64.1	44.5	13.4	N/A	13.4	N/A	20.2	N/A	24.1	N/A	15.0	12.5	11.4	8.4	2.1	3.6	22.0	2.9	4.9	7.1	4.8	14.7
YJ-15	59.1	64.1	44.5	13.1	9.6	12.9	9.4	20.2	18.7	24.2	22.0	15.0	12.5	11.4	8.4	2.1	3.6	22.0	2.9	4.9	7.1	4.8	14.7
YH-20	59.1	64.1	50.0	13.5	N/A	13.4	N/A	20.2	N/A	24.2	N/A	15.0	12.5	11.4	8.4	2.1	3.6	22.0	2.9	4.9	7.1	4.8	14.7
YJ-20	59.1	64.1	50.0	13.1	9.6	12.9	9.4	20.2	18.7	24.2	22.0	15.0	12.5	11.4	8.4	2.1	3.6	22.0	2.9	4.9	7.1	4.8	14.7

NOTE: The 'I' designation indicates a four pipe system.

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FRASER-JOHNSTON

Heating ■ Air Conditioning

**SINGLE PACKAGE
AIR CONDITIONER / GAS HEAT
14 SEER – R-410A – 1 PHASE
2 THRU 5 NOMINAL TONS - 208/230V
50 THRU 125 MBH HEAT INPUT
MODELS: PCG4*24 THRU 60**



DESCRIPTION

These packaged cooling/heating air conditioners are designed for outdoor installation. Only utility and duct connections are required at the point of installation.

WARRANTY

Extended 10-Years limited parts and compressor warranty
Lifetime gas heat exchanger warranty with registration.
* Extended warranty requires online registration within 90 days of purchase for replacement or closing for new home purchase. See limited warranty certificate in User's Information Manual for details.

FEATURES

• **Operating Efficiency** - All PCG4 model gas units provide a minimum AFUE of 81.0% in heating and 14.0 SEER, 11.0 EER rating for cooling operation. All models meet California Low-Nox requirements of 40 ng/joule emission level for Air Quality Management Districts.

- **On Site Flexibility** - All model sizes use a compact design cabinet in one of two footprints. This provides installer flexibility for placing the proper capacity unit on curbs or pads with the smallest footprint after the internal load has been determined. Field convertible duct connections from side shot to down shot allows the installer to have greater flexibility with less inventory.
- **Lower Installation Cost** - Installation time and costs are reduced by easy power and control wiring connections. The small base dimension means less space is required on the ground or roof. All units are completely wired, charged with R-410A and tested prior to shipment. Test stations using a state-of-the-art computerized process system are used to insure product quality. Refrigerant charge and component part numbers are verified via computers during assembly. Vital run test statistics such as system pressure, motor currents, air velocity and temperature, unit vibration, and gas system safeties are monitored and recorded by the system to insure unit performance. Equal size side supply and return duct connections allow easy connection of ducts to match low crawl spaces without transition pieces.
- **Utility Connections Made Easy** - Gas and electric utility access provided through the bottom or the side of the unit. Utility connections can be made quickly and with a minimum amount of field labor. A field supplied and field installed electrical disconnect switch must be installed.
- **Convertible Airflow Design** - The bottom duct openings are covered when they leave the factory, ready to be used for a side supply/side return application. If a bottom supply/bottom return application is desired, simply remove the two panels from the bottom of the unit and place them in the side supply/side return duct openings. No panel cutting is required and no accessory panel is necessary. Convertible airflow design allows maximum field flexibility and minimum inventory
- **Condensate Pan** - A corrosion-resistant, long-lasting, watertight pan is positioned below the evaporator coil to collect and drain all condensate, preventing build-up of stagnant condensate. The condensate pan conforms to ASHRAE 62-89 standards (Ventilation for Acceptable Indoor Air Quality).
- **Condensate Drain** - The 3/4 inch NPT female connection is rigidly mounted to assure proper fit and leak tight seal.
- **Durable Finish** - The cabinet is made of G90 galvanized steel with a powder paint coating for appearance and protection. The pre-treated galvanized steel provides a better paint-to-steel bond, which resists corrosion and rust creep. Powder paint finish insure less fading when exposed to sunlight, and provides superior corrosion resistance (1000 hour salt spray tested).

ACCESSORIES

- **Propane Conversion Kit (S1-1NP0702, S1-1NP0701)** - Kit includes burner orifices, gas valve conversion and installation instructions necessary to field convert unit from natural gas to propane.
- **Economizer for Downflow Applications (S1-2EE04708424, S1-2EE04708524)** - Modulating integrated economizer provides simultaneous operation between the mechanical cooling and economizer operation. Independent blade design insures proper control and less than 1% leak rate. Includes hood and mesh bird screen filter integrated into the hood, dry bulb sensor and relief damper. Separate field accessories of single enthalpy and dual enthalpy are also available.
- **Economizer for Horizontal Applications (S1-2EE04708624, S1-2EE04708724)** - Modulating

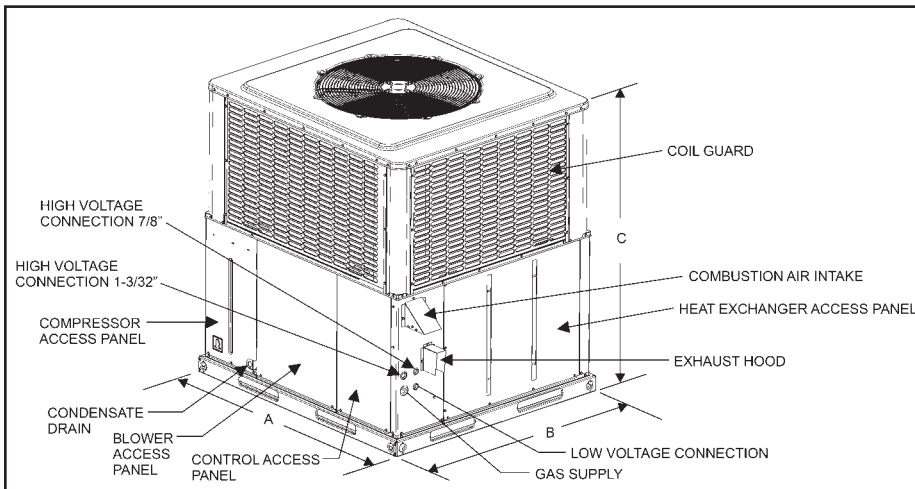
integrated economizer provides simultaneous operation between the mechanical cooling and economizer operation. Independent blade design insures proper control and less than 1% leak rate. Includes hood and mesh bird screen filter integrated into the hood, dry bulb sensor and relief damper. Separate field accessories of single enthalpy and dual enthalpy are also available.

- **Single/Dual Enthalpy Sensor (S1-2EC04700624)** - Sensor replaces dry bulb sensor standard in economizer kit. Provides improved economizer operation by sensing the dry bulb temperature from outdoors plus the enthalpy content of the outdoor air.
- **CO2 Sensor Kit (S1-2AQ04700824)** - Sensor kit detects CO2 levels automatically and overrides the economizer when CO2 levels rise above the preset limits.
- **Outdoor Temp. Sensor Kit (S1-2EC04700724S1-2EC04700724v)** - Additional outdoor air temp sensor kit used with economizers.
- **Filter/Frame Kit (Single Phase Only) (S1-1FF0602, S1-1FF0601)** - Kit contains the necessary hardware to field install return air filters into the base unit. The filter rack is suitable for either 1" or 2" filters. (filters not supplied) This kit is available for single phase horizontal or vertical duct applications.
- **Motorized Fresh Air Damper (S1-2MD04705224, S1-2MD04705124)** - Designed for duct mounted side supply/return and unit mounted down supply/return applications. Damper capable of providing 0% through 50% of outdoor air (field supplied). Closes on power loss, includes hood and screen assembly.
- **Rectangle to Round (Horizontal) Adapter (S1-1AK0110, S1-1AK0111)** - Kit includes one supply and one return air rectangle to round duct adapter. Adapters are preformed and designed to fit over current horizontal duct openings on the base unit. Transition is from rectangle to 12" round for the 1AK0110 kit and from rectangle to 14" round for the 1AK0111 kit.
- **Rectangle to Round (Downflow) Adapter (S1-1AK0108, S1-1AK0109)** - Kit includes one supply and one return air rectangle to round duct adapter. Adapters are preformed and designed to fit into current downflow duct openings on the roof curb. Transition is from rectangle to 16" round for the 1AK0108 kit and from rectangle to 18" round for the 1AK0109 kit.
- **Roof Curbs (S1-1RC0503, S1-1RC0501)** - NRCA approved curbs provide proper fit to base unit for rooftop installations. Curbs are designed to be assembled through hinge pins in each corner. Kit also provides seal strip to assure an air tight seal. These are 8 inch high roof curbs.
- **Roof Curbs (S1-1RC0504, S1-1RC0502)** - NRCA approved curbs provide proper fit to base unit for rooftop installations. Curbs are designed to be assembled through hinge pins in each corner. Kit also provides seal strip to assure an air tight seal. These are 14 inch high roof curbs.
- **Manual Outdoor Damper (S1-1FA0502, S1-1FA0501)** - Provides 0% through 50% outdoor air capability (field adjustable). Designed for duct mounted side supply/return applications. Includes hood and screen assembly.
- **Wall Thermostat** - The units are designed to operate with standard, 24-volt electronic and electro-mechanical thermostats. All units can operate with single stage heat/single stage cool thermostats - with or without the economizer.
- **Low Ambient Kit (S1-2LA04700824)** - Kit provides necessary hardware to convert unit to operate in cooling cycle down to 0° F. Standard unit operation 45° F.
- **Transformer Kit (S1-2EC06700124)** - Kit provides necessary hardware to provide single phase models from factory furnished 40 VA transformer capability to 75 VA transformer capability. (Required on installations with economizer or motorized damper).
- **Base Rail Hole Cover Kit (S1-1HC0101)** - Kit provides necessary hardware to close off openings in base rails to block off openings, i.e. prevent animal entrance.

UNIT DIMENSIONS (Inches)

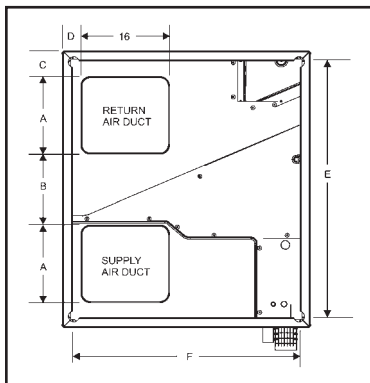
Model	Dimensions		
	A	B	C
PCG4A24	51-1/4	35-3/4	47
PCG4A30	51-1/4	35-3/4	47
PCG4A36	51-1/4	35-3/4	47
PCG4A42	51-1/4	35-3/4	49
PCG4B48	51-1/4	45-3/4	53
PCG4B60	51-1/4	45-3/4	55

*1CT curb apadters available for older York "cube" units. Call for more info.



PHYSICAL DATA

COMPONENT	MODELS														
	PCG4A24		PCG4A30		PCG4A36			PCG4A42		PCG4B48			PCG4B60		
NOMINAL TONNAGE	2.0		2.5		3.0			3.5		4.0			5.0		
AHRI Cooling Performance															
Gross Capacity @ AHRI A point (MBH)	23.7		30.1		37.2			43.5		47.7			55.0		
AHRI net capacity (MBH)	22.8		29.0		34.6			41.0		45.5			52.5		
EER	11.0		11.0		11.0			11.0		11.0			11.0		
SEER	14.0		14.0		14.0			14.0		14.0			14.0		
Nominal CFM	800		1000		1200			1400		1600			2000		
System power (KW)	2.1		2.6		3.2			3.8		4.2			4.8		
Refrigerant type	R410A		R410A		R410A			R410A		R410A			R410A		
Refrigerant charge (lb-oz)	5-4		9-2		8-3			9-4		14-4			14-2		
AHRI Gas Heat Performance															
Heating model	50	75	50	75	50	75	100	75	100	65	100	125	65	100	125
Heat input (K Btu)	50.0	75.0	50.0	75.0	50.0	75.0	100.0	75.0	100.0	65.0	100.0	125.0	65.0	100.0	125.0
Heat output (K Btu)	40	60	40	60	40	60	80	60	80	52	80	100	52	80	100
AFUE %	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0	81.0
No. burners	2	3	2	3	2	3	4	3	4	2	3	4	2	3	4
No. stages	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Temperature Rise Range (°F)	40-70		40-70		35-65		40-70		40-70		40-70			40-70	
Max. Static Pressure (in. w.c.)	0.5		0.5		0.5			0.5		0.5			0.5		
Max. Outlet Air Temp. (°F)	180		180		180			180		180			180		
Gas piping connection (in.)	1/2		1/2		1/2			1/2		1/2			1/2		
Dimensions (inches)															
Length	51-1/4		51-1/4		51-1/4			51-1/4		51-1/4			51-1/4		
Width	35-3/4		35-3/4		35-3/4			35-3/4		45-3/4			45-3/4		
Height	47		47		47			49		53			55		
Operating WT. (lbs.)	359	366	379	386	415	422	426	442	446	495	503	508	522	530	535
Compressors															
Type	Recip		Recip		Recip			Scroll		Scroll			Scroll		
Condenser Coil Data															
Face area (Sq. Ft.)	15.1		17.0		17.0			17.0		23.8			26.0		
Rows	2		3		3			3		3			3		
Fins per inch	16		16		16			16		16			16		
Tube diameter	3/8		3/8		3/8			3/8		3/8			3/8		
Circuitry Type	Interlaced		Interlaced		Interlaced			Interlaced		Interlaced			Interlaced		
Evaporator Coil Data															
Face area (Sq. Ft.)	3.4		3.4		3.4			4.4		4.4			4.4		
Rows	2		3		3			3		3			3		
Fins per inch	16		16		16			16		16			16		
Tube diameter	3/8		3/8		3/8			3/8		3/8			3/8		
Circuitry Type	Interlaced		Interlaced		Interlaced			Interlaced		Interlaced			Interlaced		
Refrigerant control	TXV		TXV		TXV			TXV		TXV			TXV		
Condenser Fan Data															
Fan diameter (Inch)	24		24		24			24		26			26		
Type	Prop		Prop		Prop			Prop		Prop			Prop		
Drive type	Direct		Direct		Direct			Direct		Direct			Direct		
No. speeds	1		1		1			1		1			1		
Motor HP each	1/4		1/4		1/4			1/4		1/3			1/3		
RPM	850		850		850			850		850			850		
Nominal total CFM	2400		2400		2400			2400		3200			3200		
Direct Drive Evaporator Fan Data															
Fan Size (Inch)	11 x 8		11 x 8		11 x 10			11 x 10		11 x 10			11 x 10		
Type	Centrifugal		Centrifugal		Centrifugal			Centrifugal		Centrifugal			Centrifugal		
Motor HP each	1/3	1/2	1/3	1/2	1/2	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1
RPM	1200 Max		1200 Max		1200 Max			1200 Max		1200 Max			1200 Max		
Frame size	48		48		48			48		48			48		
Filters															
Quantity - Size	Field-supplied external filters must be sized so as not to exceed 300 FPM air velocity through disposable filters. For internal filter use, a filter rack kit is available. Consult the instructions supplied with that kit for replacement filter sizes. Filter sizes: A=20x20, B=20x30.														

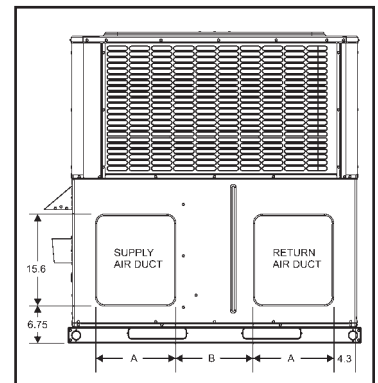


BOTTOM DUCT DIMENSIONS (Inches)

Model	A	B	C	D	E	F
24, 30, 36, 42	10	21.5	5	4.5	47.5	32
48, 60	14	13.5	5	3.5	47.5	42

REAR DUCT DIMENSIONS (Inches)

Model	A	B
24, 30, 36, 42	9.6	22
48, 60	13.6	14





SINGLE PACKAGE AIR CONDITIONERS

ZS(1ph & 3ph) Series
3, 4, 5, 6 NOMINAL TONS
14 & 13 SEER, R410A

FEATURES:

- **COMMON FOOTPRINT/CABINET** - ALL SHARE THE SAME CABINET AND ROOF CURB.
- **HIGH EFFICIENCY** - ALL UNITS HAVE A MINIMUM SEER OF 9.0. GAS/ELECTRIC UNITS HAVE A MINIMUM AFUE OF 79%.
- **CONVERTIBLE AIR FLOW DESIGN** - BOTH THE SIDE AND BOTTOM DUCT OPENINGS ARE COVERED WHEN ORDERED ALLOWING FOR IMMEDIATE SYSTEM CONFIGURATION.
- **FIELD INSTALLED ACCESSORIES** - MOTORIZED DAMPER, ELECTRIC HEATERS AND LOW AMBIENT CONTROLS ARE EASILY FIELD INSTALLED.
- **VARIABLE INDOOR AIRFLOWS** - ALL MODELS OPERATE OVER A WIDE RANGE OF DESIGN CONDITIONS WITH A THREE SPEED FAN MOTOR.
- **FULL PERIMETER BASE RAILS** - PROVIDE A SOLID FOUNDATION FOR FORK LIFT ACCESS OR ACCESS HOLES FOR AN OVERHEAD CRANE.
- **SYSTEM PROTECTION** - CRANKCASE HEATERS AND INTERNAL COMPRESSOR PROTECTION ON ALL COMPRESSORS. A LIQUID LINE FILTER DRIER AND A SUCTION LINE FREEZSTAT ARE STANDARD ON ALL MODELS. COOLING TO AMBIENT TEMPERATURES OF 45°.
- **EASY UTILITY CONNECTIONS** - GAS AND ELECTRIC UTILITY KNOCKOUTS ARE PROVIDED ON UNDERSIDE AND SIDE OF THE UNITS.
- **AIR FILTERS** -1" THROWAWAY FILTERS COME STANDARD. FILTER RACKS CAN ACCOMMODATE 1" OR 2" FILTERS WITHOUT MODIFICATIONS.



ZS UNIT
Cooling Only

RATINGS

CAPACITY RATINGS Cooling / Electric Heating

MODEL	API RATINGS ¹				NOMINAL ELECTRIC HEAT CAPACITY ³ (KW)		
	COOLING CAPACITY 80 / 67-95°F			SOUND RATING ² (bels)	240V	480V	575V
	MBH	SEER	EER*				
ZS-03	35.8	13.5	11.65	8.4	5, 7, 10, 15 & 20	7, 10, 15 & 20	-
ZS-04	46.5	13.45	11.75	8.3	5, 7, 10, 15 & 20	7, 10, 15 & 20	10
ZS-05	60	13.0	11.20	8.1	5, 7, 10, 15, 20 & 30	7, 10, 15, 20 & 30	7, 10, 15, 20 & 30

CAPACITY RATINGS - Cooling / Gas Heating

MODEL	API RATINGS ¹				GAS HEAT CAPACITY							
	COOLING CAPACITY 80/67-95°F			SOUND RATING ² (bels)	INPUT (MBH)	OUTPUT (MBH)		AFUE (%)	S.S.E. (%)	S.E. (%)	TEMP RISE (°F)	GAS LINE SIZE (in. OD)
	MBH	SEER	EER*			1Ø	3Ø					
ZS03H10A1A1A	40	9.05	8.65	8.4	100	82	81	80.0	79.0	71.0	40-70	1/2
ZS04H12A1A1A	48	9.00	8.60	8.3	125	103	101	79.0	78.0	73.0	45-75	1/2
ZS05H12A1A1A	58	9.00	8.60	8.1	125	103	101	80.0	78.5	73.5	35-65	1/2
ZSA6H12A1A1A		9.00	8.6	8.1	125	--	101	80.0	78.05	73.5	35-65	1/2

*Not ARI Listed

¹ Ratings are in accordance with ARI Standard 210.

² Sound ratings are in accordance with ARI Standard 270.

³ Heaters available as accessories – all with single point power supply.

COMPONENT WEIGHTS

COMPONENT		MODELS ZS			
		3 TON	4 TON	5/6 TON	
Basic Unit ZS (Gas / Electric)	ZD (Cooling only)	545	585	610	
	100 Mbh	-	645	-	
	125 Mbh	615	-	670	
Options and Accessories	Economizer			50	
	Motorized OutdoorAir damper			48	
	Electric Heat (Nominal KW)	005-007			16
		010-015			18
		020-030			20
	Roof Mounting Curb			92	
	Relief / Fixed Air Damper			10	

230V 3 PHASE

MODEL #
ZS03H10A2A1A
ZS04H12A2A1A
ZS05H12A2A1A
ZSA6H12A2A1A

CURB

PART #
1RC0434

NOTE: 460V, 3 – ALSO AVAILABLE

*CALL FOR AVAILABILITY.

SINGLE PACKAGE AIR CONDITIONERS

PHYSICAL DATA

MODELS		ZS		
		03	04	05/06
EVAPORATOR BLOWER	CENTRIFUGAL BLOWER (Dia. x Wd. in.)	11 x 9	11 x 10	11 x 10
	FAN MOTOR HP	1/2	3/4	1
EVAPORATOR COIL	ROWS DEEP	3	3	3
	FINS PER INCH	13	13	13
	FACE AREA (Sq. Ft.)	3.6	4.3	5.1
	PROPPELLER DIA. (in.)	24	24	24
CONDENSER FAN	FAN MOTOR HP	1/2	1/2	1/2
	NOM. CFM TOTAL	4500	4200	4500
	CONDENSER COIL	ROWS DEEP	1	2
CONDENSER COIL	FINS PER INCH	16	16	14.5
	FACE AREA (Sq. Ft.)	17.1	13.6	16.2
	TOTAL SURFACE (Sq. Ft.)	17.1	26.9	31.2
	AIR FILTERS (SEE NOTE)	QUANTITY PER UNIT (15" x 20" x 1" or 2")	2	2
CHARGE	QUANTITY PER UNIT (14" x 25" x 1" or 2")	1	1	1
	TOTAL FACE AREA (Sq. Ft.)	6.3	6.3	6.3
	REFRIGERANT 410a (lbs./oz.)	4/4	5/8	5/8

CLEARANCES

Back	12" (Less Economizer) 36" (With Economizer)
Left Side (Filter Access)	33"
Right Side (Cond. Coil)	24"
Below Unit ¹	0"
Above Unit ²	72" (For Condenser Air Discharge)

¹Units may be installed on combustible floors made from wood or class A, B or C roof covering material.

²Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser or discharge outlet.

NOTE:

A 1" clearance must be provided between any combustible material and the supply air ductwork for a distance of 3 feet from the unit.

The products of combustion must not be allowed to accumulate within a confined space and recirculate.

Locate unit so that the vent air outlet hood is at least:

- Three (3) feet above any forced air inlet located within 10 horizontal feet (excluding those integral to the unit).
- Four (4) feet below, 4 horizontal feet from, or 1 foot above any door or gravity air inlet into the building.
- Four (4) feet from electric meters, gas meters, regulators and relief equipment.

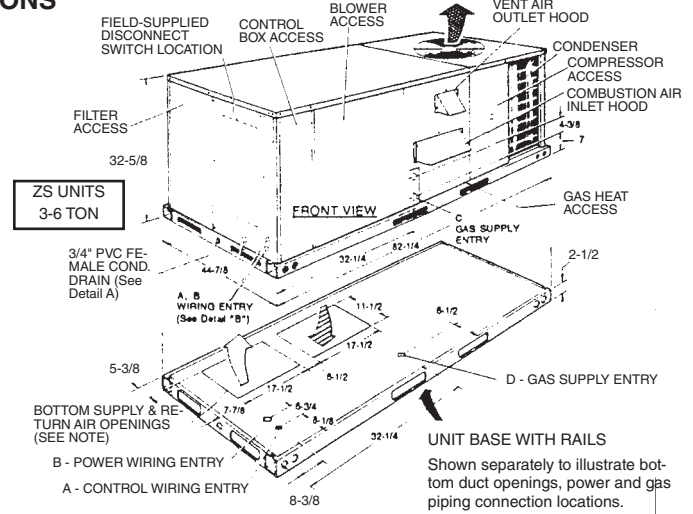
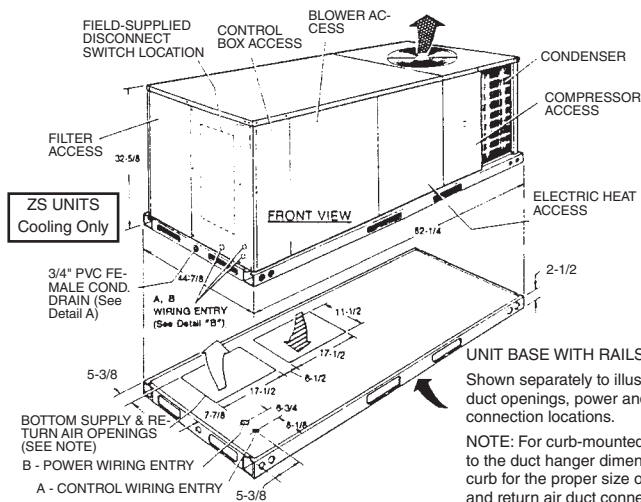
UTILITIES ENTRY DATA

HOLE	KNOCKOUT SIZE (DIA.)	USED FOR
A	7/8"	Control Wiring (Side or Bottom)
B	2"	Power Wiring (Side or Bottom)
C	1-5/8"	Gas Piping (Front)
D	1-1/2"	Gas Piping (Bottom)

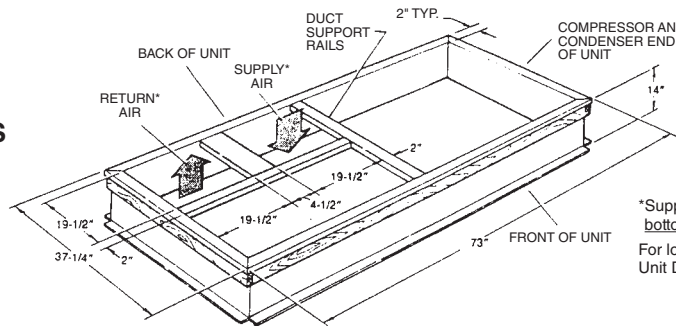
ELECTRICAL DATA - BASIC UNITS

MODEL ZS	POWER SUPPLY	VOLTAGE LIMITATIONS		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	TOTAL UNIT AMPACITY, AMPS	MAX. FUSE SIZE, AMPS	MAX. HACR BREAKER SIZE, AMPS	MIN. WIRE SIZE, AWG
		MIN.	MAX.	RLA	LRA						
03	208/230-3-60	187	253	11.6	73.4	2.0	4.4	20.9	25	25	10
	460-3-60	414	504	5.1	37.7	1.4	2.0	9.8	15	-	14
04	208/230-3-60	187	253	15.4	90.0	2.0	5.0	26.3	35	35	10
	460-3-60	414	504	8.3	45.0	1.4	2.2	14.3	20	-	12
05/06	208/230-3-60	187	253	17.3	106.0	2.0	6.6	30.2	45	45	8
	460-3-60	414	504	9.0	53.0	1.4	3.3	16.0	20	-	10

UNIT DIMENSIONS



ROOF CURB DIMENSIONS

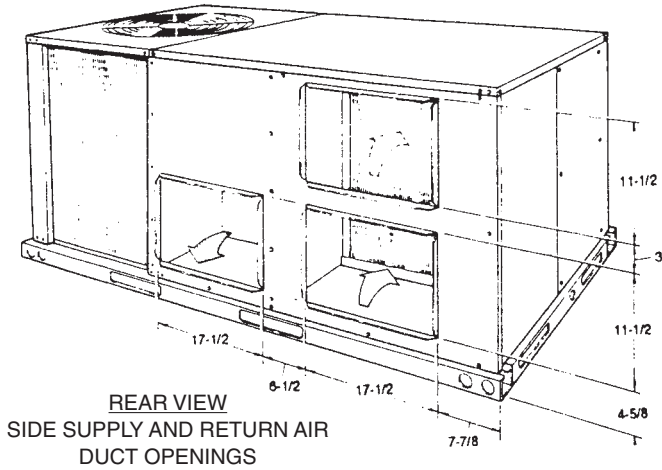


*Supply and Return Air (including duct support rails) shown are typical for bottom discharge applications.

For location of horizontal discharge applications (on back of unit), refer to Unit Dimension details.

**SINGLE PACKAGE
AIR CONDITIONERS**

UNIT DIMENSIONS - CONT'D. (ZS 3, 4, 5 & 6 TON)



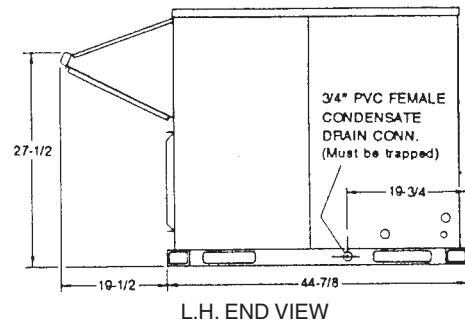
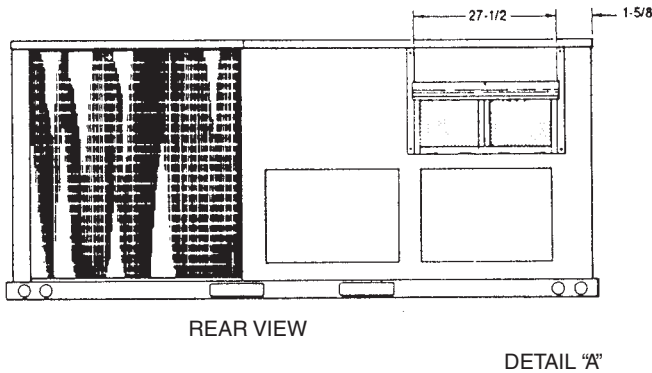
DUCT COVERS - Units are shipped with all air duct openings covered.

For side duct applications;

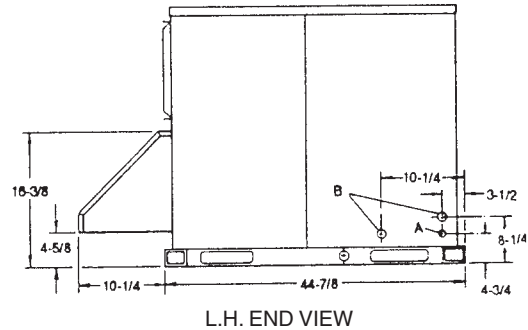
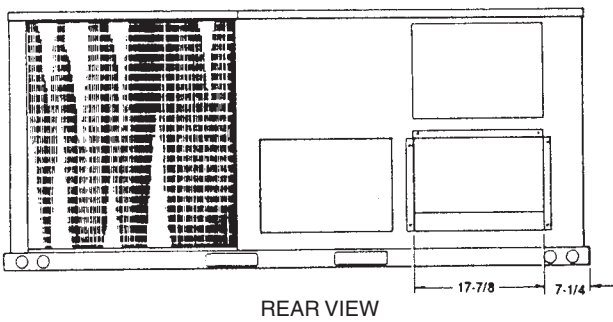
1. Remove and discard the supply and return air duct covers.
2. Connect ductwork to duct flanges on the rear of the unit.

For bottom duct applications;

1. Remove the side supply air duct cover to gain access to the bottom supply air knockout panel.
2. Remove and discard the bottom knockout panel.
3. Replace the side duct cover.
4. With filter section access panel removed from the unit, remove and discard the bottom return air knockout panel.
5. Replace the filter access panel.

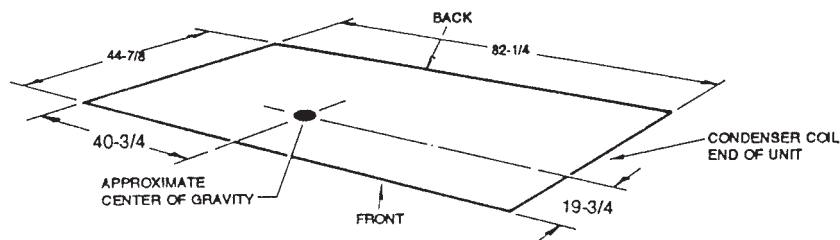


UNIT WITH ECONOMIZER RAIN HOOD



UNIT WITH FIXED OUTDOOR AIR / BAROMETRIC RELIEF RAINHOOD

CENTER OF GRAVITY





STANDARD EFFICIENCY SINGLE PACKAGE AIR CONDITIONERS AND SINGLE PACKAGE GAS/ELECTRIC UNITS

ZS -06, -07, -08, -10, -12
6-1/2, 7-1/2, 8-1/2, 10, 12-1/2 NOMINAL TONS

DESCRIPTION

Unitary Products Group® ZS units are convertible single packages with a common footprint cabinet and common roof curb for all 6-1/2 through 12-1/2 ton models. All units have two compressors with independent refrigeration circuits. The units were designed for commercial applications and can be easily installed on a roof curb, slab, or frame.

All ZS units are self-contained and assembled on rigid full perimeter base rails allowing for 3-way forklift access and overhead rigging. Every unit is completely charged, wired, piped, and tested at the factory to provide a quick and easy field installation.

All units are convertible between side and down airflow. An independent economizer design is used on side and down discharge applications, as well as all tonnage sizes.

ZS units are available in the following configurations: cooling only, cooling with electric heat, and cooling with gas heat. Electric heaters are available only as field-installed accessories.



Tested in accordance with:



This product was manufactured in a plant whose quality system is certified/registered as being in conformity with ISO 9001

ZS COMPONENT LOCATION

FEATURES

• **Standard Efficiency** – All standard efficiency units have a minimum EER of 9.0. Gas/electric units have electronic spark ignition and power vented combustion with steady state efficiencies of 80%.

• **Service Friendly** – The ZS incorporates a number of enhancements which improve serviceability. The motor and blower slide out of the unit is a common assembly. This facilitates greater access to all the indoor airflow components, thus simplifying maintenance and adjustment.

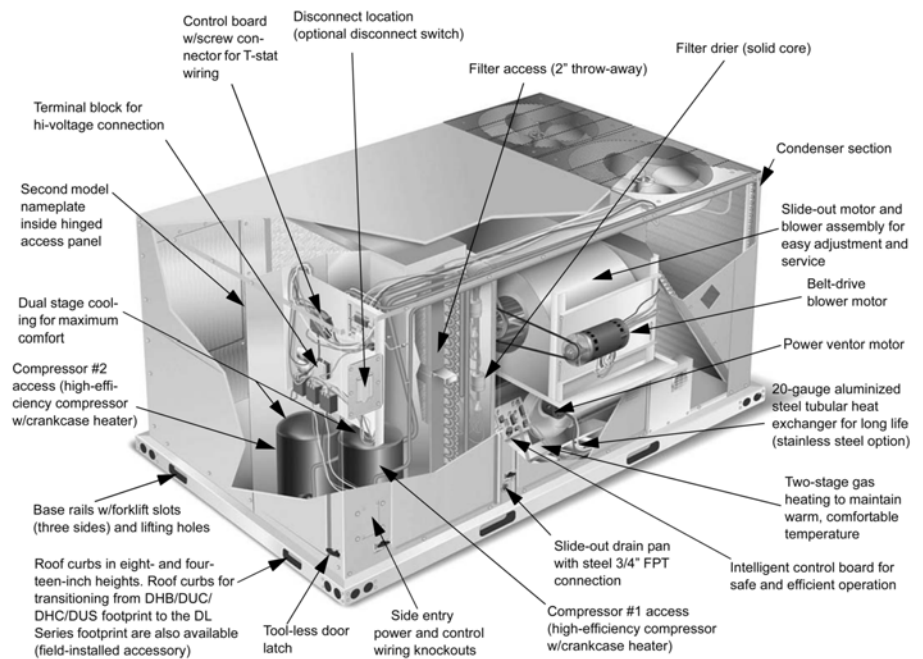
Service time is reduced through the use of hinged, tool-less panels. Such panels provide access to frequently inspected components and areas, including the control box, compressors, filters, indoor motor & blower, and the heating section. The panels are screwed in place at the factory to prevent access by children or other unauthorized persons. It is recommended that the panels be secured with screws once service is complete.

Service windows have been placed in both condenser section walls. Rotation of the cover allows easy access to the condenser coils for cleaning or inspection.

Both the unit control board and ignition control board utilize flash codes to aid in diagnosis of unit malfunctions. Unique alarm codes quickly identify the source of the unit alarm.

All units use the same standard filter size. This standardization removes any confusion on which filter sizes are needed for replacement.

The non-corrosive drain pan slides out of the unit to permit easy cleaning. The drain pan is accessed by removing the drain pan cover plate on the rear of the unit. Once the plate is removed, the drain pan slides out through the rear of the unit.

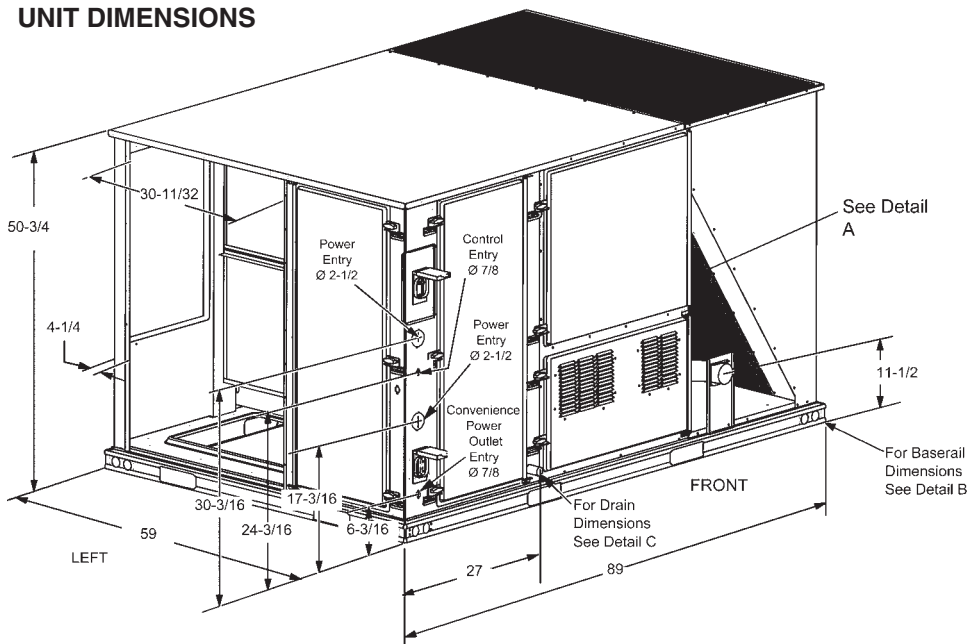


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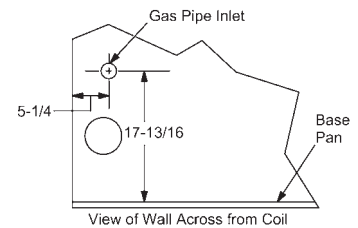
PHYSICAL DATA

Component		Models				
		06	07	08	10	12
Evaporator Blower	Blower, Centrifugal (Dia. x Wd. in.)	12 x 12	12 x 12	15 x 15	15 x 15	15 x 15
	Motor, Standard (HP)	1-1/2	1-1/2	2	2	3
	Motor, Optional (HP)	2	3	3	3	5
Evaporator Coil	Rows	3	3	3	4	3
	Fins per Inch	15	15	15	15	15
	Height (in.)	30	32	24	40	40
	Face Area (ft. ² each)	10.6	10.6	13.2	13.2	13.2
Condenser Fan (2 per Unit)	Propeller Dia. (in., each)	24	24	24	24	24
	Motor (HP, each)	1/3	3/4	3/4	3/4	3/4
	CFM, Nominal (each)	6200	7600	8300	9500	13900
Condenser Coil (2 per unit)	Rows (each)	1	1	1	1	1
	Fins per Inch	23	23	23	23	23
	Height (in. each)	24	28	36	44	44
	Face Area (ft. ² each)	7.9	9.2	11.9	14.5	14.5
Refrigerant Charge R410a	System 1 (lb./oz.)	4-12	4-12	5-12	6-8	7-8
	System 2 (lb./oz.)	4-10	4-10	5-12	6-8	7-8
Compressors	Quantity	2	2	2	2	2
	Type	Recip	Recip	Recip	Recip	Scroll
Air Filters	Size (Wd. x Ht. x Thickness in.)	24x16x2	24x16x2	24x20x2	24x20x2	24x20x2
	Number Per Unit	4	4	4	4	4

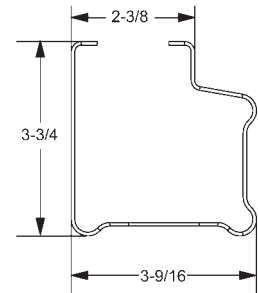
UNIT DIMENSIONS



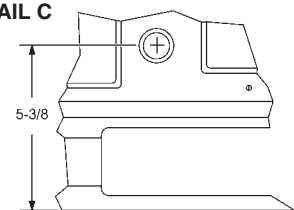
DETAIL A



DETAIL B



DETAIL C



UNIT CLEARANCES

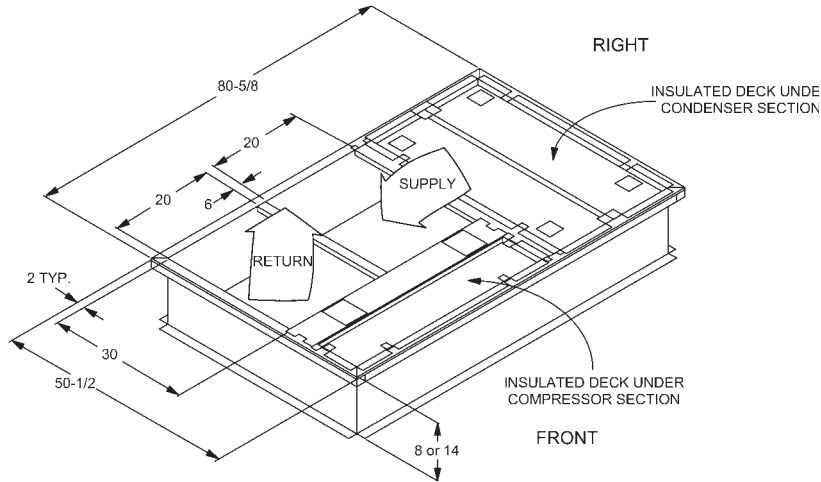
Top*	72"	Right	12"
Front	36"	Left	36"
Rear†	36"	Bottom‡	0"

* Units must be installed outdoors. Overhanging structure or shrubs should not obstruct condenser air discharge outlet.

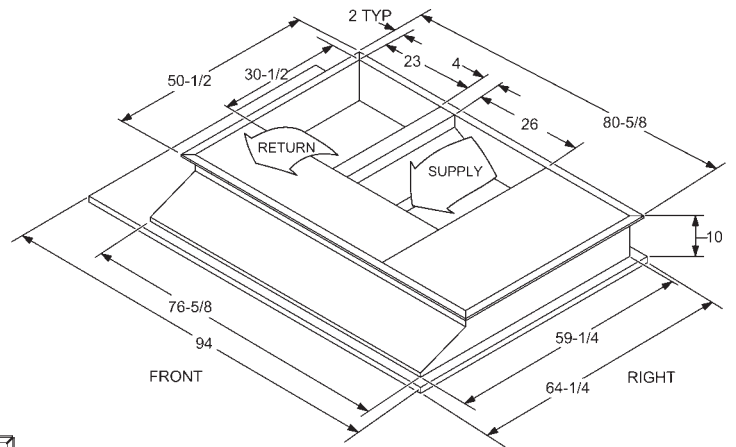
† To remove the slide-out drain pan, a rear clearance of 60" is required. If space is unavailable, the drain pan can be removed through the front by separating the corner wall.

‡ Units may be installed on combustible floors made from wood or class A, B or C roof covering materials.

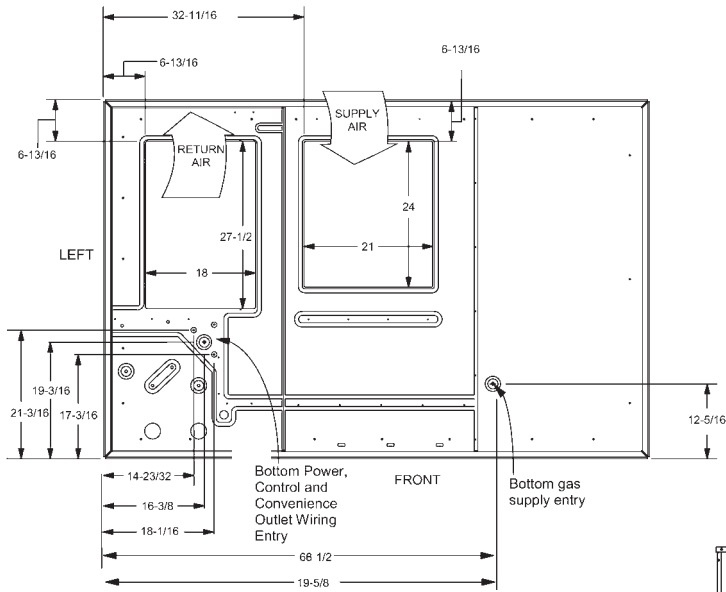
UNIT ROOF CURB DIMENSIONS



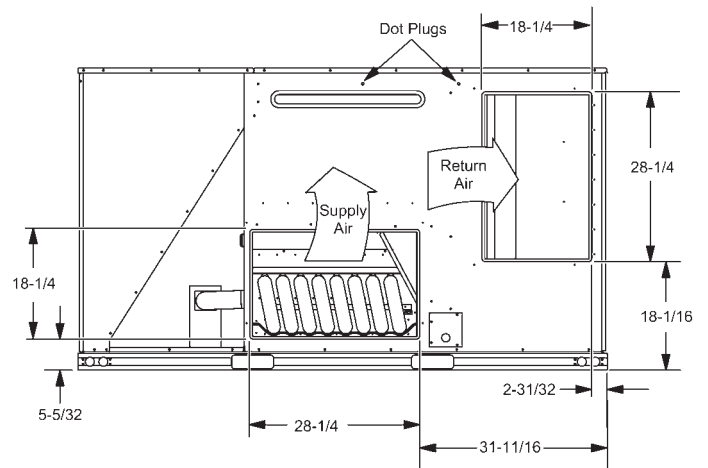
TRANSITION ROOF CURBS



BOTTOM DUCT OPENINGS (FROM ABOVE)



REAR DUCT DIMENSIONS



SINGLE PACKAGE AIR CONDITIONERS

ZS -15 & 20
15 AND 20 NOMINAL TONS

FEATURES:

- DUAL REFRIGERANT CIRCUITS FOR EFFICIENT PART LOAD OPERATION.
- COOLING ONLY, COOLING WITH GAS HEAT AND COOLING WITH ELECTRIC HEAT ARE AVAILABLE FOR A VARIETY OF APPLICATIONS.
- ALL UNITS ARE SELF-CONTAINED AND ASSEMBLED ON FULL PERIMETER BASE RAILS WITH HOLES FOR OVERHEAD RIGGING.
- EVERY UNIT IS PIPED, WIRED, CHARGED AND TESTED AT THE FACTORY TO SIMPLIFY FIELD INSTALLATION.
- SUITABLE FOR BOTTOM OR HORIZONTAL DUCT CONNECTIONS.
- ALL MODELS ARE AVAILABLE WITH EITHER SINGLE ENTHALPY ECONOMIZER OR MOTORIZED OUTDOOR AIR DAMPER.
- ALL SUPPLY AIR BLOWERS ARE EQUIPPED WITH A BELT DRIVE THAT CAN BE ADJUSTED TO MEET EXACT REQUIREMENTS OF THE JOB.

RATINGS

COOLING RATINGS*

MODEL	MBH	EER
COOLING ONLY		
ZS-15C00	178	12.4
ZS-20C00	238	11.6
COOLING WITH GAS HEAT		
ZS-15N30	178	12.4
ZS-15N40	178	11.6
ZS-20N30	236	12.4
ZS-20N40	236	11.6

MODEL	MBH	EER
COOLING WITH ELECTRIC HEAT		
ZS-15E018	178	12.4
ZS-15E036	178	12.4
ZS-15E054	176	12.4
ZS-15E072	176	12.4
ZS-20E018	236	11.6
ZS-20E036	236	11.6
ZS-20E054	236	11.6
ZS-20E072	234	11.6

* 80/67°F Indoor and 95°F outdoor.
EER – Energy Efficiency Ratio – the cooling capacity in BTU's per hour (Btuh) divided by the power input in watts in any given set of rating conditions, expressed in Btuh per watt (Btuh/watt).
NOTE: Deduct 2 MBH and 0.1 EER for 208 volts.



PHYSICAL DATA
BASIC UNITS

MODELS		ZS	
		15	20
EVAPORATOR	CENTRIFUGAL BLOWER (Dia. x Wd. in.)	15 x 15	18 x 15
BLOWER	FAN MOTOR HP	5	7.5
EVAPORATOR	ROWS DEEP	4	4
COIL	FINS PER INCH	13.5	13.5
	FACE AREA (Sq. Ft.)	25	25
CONDENSER	PROPELLER DIA. (in.) (Each)	24	30
FAN	FAN MOTOR HP (Each)	1/3	1/3
(Two Per Unit)	NOM. CFM TOTAL (Each)	4000	5000
CONDENSER	ROWS DEEP	2	3
COIL	FINS PER INCH	20	20
	FACE AREA (Sq. Ft.)	63.8	63.8
COMPRESSOR	10-TON TANDEM	-	-
(Qty. Per Unit)	5-TON HERMETIC	4	4
AIR	QUANTITY PER UNIT (12" x 24" x 2")	12	12
FILTERS	QUANTITY PER UNIT (16" x 25" x 2")	--	--
	QUANTITY PER UNIT (18" x 24" x 2")	--	--
CHARGE	TOTAL FACE AREA (Sq. Ft.)	15.0	20.0
	REFRIGERANT R410 SYSTEM NO. 1 & 2 (lbs./oz.)	12-8	12-0
	SYSTEM NO. 3 & 4	12-8	12-0

*This compressor will be energized first

BLOWER MOTOR AND DRIVE DATA

MODEL SIZE	DRIVE	BLOWER RANGE (RPM)	MOTOR ¹			ADJUSTABLE MOTOR PULLEY			FIXED BLOWER PULLEY			BELT (NOTCHED)				
			HP	FRAME	EFF. (%)	DESIG-NATION	OUTSIDE DIA. (IN.)	PITCH DIA. (IN.)	BORE (IN.)	DESIG-NATION	OUTSIDE DIA. (IN.)	PITCH DIA. (IN.)	BORE (IN.)	DESIG-NATION	PITCH LENGTH (IN.)	QTY
15 TON	Standard	850/1065	5	184T	83	1VP56	5.35	4.3 – 5.3 ²	1-1/8	BK90	8.75	8.4	1	BX70	71.8	1
	High Speed Access	965/1190								BK80	7.75	7.4	1	BX68	69.8	1
20 TON	Standard	870/1025	7.5	213T	89	1VP68	6.75	5.5 – 6.5 ²	1-3/8	BK120	11.75	11.4	1-3/16	BX83	84.8	1
	High Speed Access	950/1120								BK110	10.75	10.4	1-3/16	BX80	81.8	1

1 All motors have a nominal speed of 1800 RPM, a 1.15 service factor and a solid base. They can operate to the limit of their service factor because they are located in the moving air, upstream of any heating device.

2 Do NOT close this pulley below 1 turn open.

ELECTRICAL DATA

MODEL	POWER SUPPLY	COMPRESSORS				COND. FAN MOTORS		SUPPLY AIR BLOWER MOTOR		MINIMUM CIRCUIT AMPACITY (AMPS)	MAXIMUM TIME DELAY FUSE SIZE (AMPS)	MINIMUM WIRE SIZE* (AWG)	
		#1 & #2	#3 & #4	HP EACH	FLA EACH	HP	FLA	60°C	75°C				
ZS15	208/230-360	14.7	115	14.7	115	1	4.1/4.2	5	15.4/14.4	87.1/84.9	100	2/3	--
	460-3-60	7.7	50	7.7	50	1	2.1	5	7.2	42.4	50	6	--
	575-3-60	7.7	50	15.4	100	1	2.0	5	5.9	33.9	40	8	--
ZS20	208/230-3-60	38.4	248	38.4	248	1	4.1/4.2	7.5	21.0/19.4	115.1/111.6	125	--	1/2
	460-3-60	19.2	124	19.2	124	1	2.1	7.5	9.7	55.8	60	4	--
	575-3-60	15.4	100	15.4	100	1	2.0	7.5	7.8	44.8	50	6	--

* Although these sizes are based on copper conductors, aluminum wire can be used. Refer to the National Electric Code (in U.S.A.) or the current Canadian Electrical Code (in Canada) to determine the proper size.

CURBS

MODEL	PART #
15	1RC0436
20	1RC0437

ECONOMIZER EXHAUST SYSTEMS AVAILABLE.

GAS HEAT RATINGS

MODEL	MBH INPUT	MBH OUTPUT
ZS15N30	300	237
ZS15N40	400	316
ZS20N30	300	237
ZS20N40	400	316

NOTE: All gas units are two-stage heating. First stage is 50% of total.

AFUE – Annual Fuel Utilization Efficiency (77.5%) – determined in accordance with DOC test procedure.

S.S.E. – Steady State Efficiency (79.0%) – output divided by input.

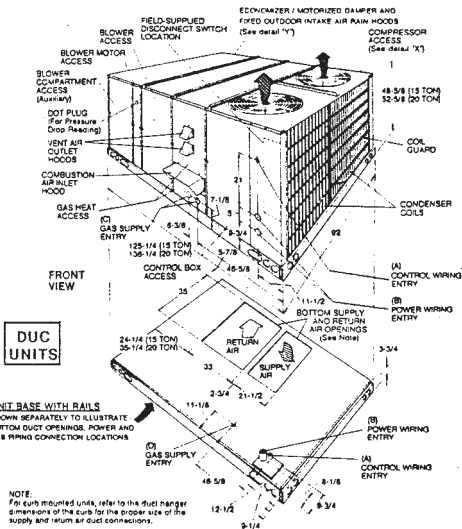
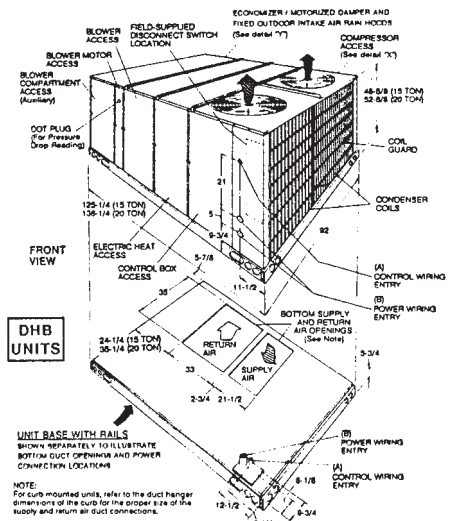
S.E. – California Seasonal Efficiency (71.0%) – determined in accordance with test procedure as specified by the State of California Energy Commission.

VOLTAGE LIMITATIONS	POWER SUPPLY	VOLTAGE	
	208/230-3-60	MIN.	MAX.
	460-3-60	187	253
	575-3-60	414	504
		518	630

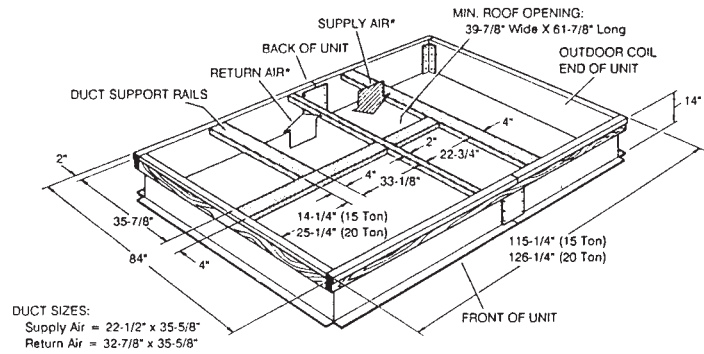
Utilization Range *A* in accordance with ARI Standard 110.

SINGLE PACKAGE AIR CONDITIONERS

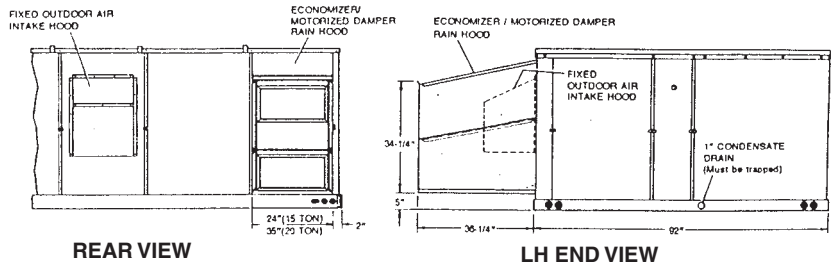
UNIT DIMENSIONS



ROOF CURB DIMENSIONS



DETAIL "Y" UNIT WITH RAIN HOODS



CLEARANCES

Front	36"
Back	24" (Less Economizer)
	49" (With Economizer)
Left Side (Finer Access)	24"
Right Side (Cond. Coil)	36"
Below Unit ¹	0"
Above Unit ²	60" with 36" maximum Horizontal Overhang (For Condenser Air Discharge)

¹Units (applicable in U.S.A. only) may be installed on combustible floors made from wood or class A, B or C roof covering material.
²Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser or discharge outlet.

NOTE:

Cooling only Models: Units and ductwork are approved for zero clearance to combustible materials when equipped with electric heaters.

ZS Models: A 1" clearance must be provided between any combustible material and the supply air ductwork for a distance of 3 feet from the unit.

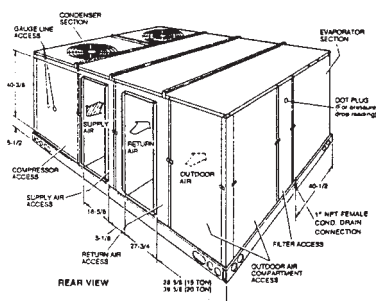
The products of combustion must not be allowed to accumulate within a confined space and recirculate.

Locate the unit so that the vent air outlet hoods are at least:

- 3 feet above any forced air inlet located within 10 horizontal feet (excluding those integral to the unit).
- 4 feet below, 4 horizontal feet from, or 1 foot above any door or gravity air inlet into the building.
- 4 feet from electric meters, gas meters, regulators and relief equipment.

DETAIL "X"

ACCESSORY SIDE SUPPLY AND RETURN AIR OPENINGS



DUCT COVERS – Units are shipped with the bottom duct openings covered. An accessory flange kit is available for connecting side ducts.

For bottom duct applications:

1. Remove the side panels from the supply and return air compartments to gain access to the bottom supply and return air duct covers.
2. Remove and discard the bottom duct covers.
3. Replace the side supply and return air compartment panels.

For side duct applications:

1. Replace the side panels on the supply and return air compartments with the accessory flange kit panels.
2. Connect ductwork to the duct flanges on the rear of the unit.

Wall-Mounted Heat Pumps E9RKUA / E12RKUA / E18RKUA / E24RKUA



**Indoor Unit
CS-E9RKUA / CS-E12RKUA**



**Outdoor Unit
CU-E9RKUA / CU-E12RKUA**



Wireless Remote Controller (Included)



Wired Remote Controller (CZ-RD516C-1) (Optional)



**Indoor Unit
CS-E18RKUA / CS-E24RKUA**



**Outdoor Unit
CU-E18RKUA / CU-E24RKUA**



Wireless Remote Controller (Included)



Wired Remote Controller (CZ-RD516C-1) (Optional)

Model No.			E9RKUA		E12RKUA		E18RKUA		E24RKUA	
			Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit
Unit Model No.			CS-E9RKUAW	CU-E9RKUA	CS-E12RKUAW	CU-E12RKUA	CS-E18RKUAW	CU-E18RKUA	CS-E24RKUAW	CU-E24RKUA
Performance & Electrical Ratings										
Capacity	Cooling	Btu/h	9,000 (4,100–10,200)		11,500 (4,100–13,300)		17,200 (5,800–19,800)		24,000 (5,800–27,200)	
	Heating	Btu/h	12,000 (4,100–14,100)		13,800 (4,100–16,300)		21,600 (5,800–22,000)		28,800 (5,800–29,200)	
Moisture Removal	High	Pints/H	1.3		1.7		3.0		7.6	
Dry Air Flow	High	CFM	425		450		670		670	
SEER	Cooling		23.0		22.5		19.5		19.0	
EER	Cooling		13.0		12.5		13.2		10.2	
HSPF	Heating		11.0		11.0		10.0		10.0	
Power Supply	V, Phase, Hz		230/208, 1PH, 60Hz		230V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz	
Running Amps	Cooling	A	3.2 / 3.6		4.2 / 4.7		6.3 / 7.0		10.8 / 11.9	
	Heating	A	5.1 / 5.7		5.6 / 6.3		8.3 / 9.3		11.4 / 12.6	
Power Input	Cooling	W	690 (250–850)		920 (250–1,150)		1,300 (430–1,600)		2,350 (430–2,720)	
	Heating	W	1,120 (200–1,500)		1,250 (200–1,710)		1,750 (380–1,800)		2,500(380–2,660)	
Back-up Heater		kW	---		---		---		---	
Fuse or Circuit Breaker Capacity		A	15		15		20		25	
Features										
Controls			Microprocessor		Microprocessor		Microprocessor		Microprocessor	
Low Ambient Control			Equipped		Equipped		Equipped		Equipped	
Wireless Controller			Included		Included		Included		Included	
Wired Remote Controller (optional)			CZ-RD516C-1		CZ-RD516C-1		CZ-RD516C-1		CZ-RD516C-1	
Fan Speeds			5 Speeds + Auto		5 speeds + Auto		5 Speeds + Auto		5 Speeds + Auto	
Timer			24-hr Program		24-hr Program		24-hr Program		24-hr Program	
Air Deflection	Horizontal		Manual		Manual		Automatic		Automatic	
	Vertical		Automatic		Automatic		Automatic		Automatic	
Air Filter			Washable + Anti Microbial Filter		Washable + Anti Microbial Filter		Washable + Anti Microbial Filter		Washable + Anti Microbial Filter	
Refrigerant			R-410A		R-410A		R-410A		R-410A	
Refrigerant control			Electric Expansion Valve		Electric Expansion Valve		Electric Expansion Valve		Electric Expansion Valve	
Operation Sound	In(Hi/Me/Lo/Qt)	dB-A	40/25/20		43/28/20		47 / 39 / 36		48 / 40 / 37	
	Outdoor(Hi)	dB-A	47		48		49		51	
Refrigerant Piping	Type		Flare		Flare		Flare		Flare	
	Discharge	inches	1/4"		1/4"		1/4"		1/4"	
	Suction	inches	3/8"		1/2"		1/2"		5/8"	
Refrigerant Pipe Length		Ft.	Max. 65.6		Max. 65.6		Max. 100		Max. 100	
Elevation Difference	Outdoor Above	Ft.	Max. 49.2		Max. 49.2		Max. 49.2		Max. 49.2	
	Outdoor Below	Ft.	Max. 49.2		Max. 49.2		Max. 49.2		Max. 49.2	
Dimensions & Weight			Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit
Height	inches		11-7/16"	21-9/32"	11-7/16"	21-9/32"	11-7/16"	31-5/16"	11-7/16"	31-5/16"
Width	inches		34-9/32"	30-23/32"	34-9/32"	30-23/32"	42-5/32"	34-15/32"	42-5/32"	34-15/32"
Depth	inches		8-7/16"	11-13/32"	8-7/16"	11-13/32"	9-15/32"	12-5/8"	9-15/32"	12-5/8"
Net Weight	Lbs.		20.0	82.0	20.0	82.0	26.0	132.0	26.0	132.0

** This is maximum elevation difference when the indoor unit is located above the outdoor unit.



Wall-Mounted Heat Pumps KE30NKU / KE36NKU



Indoor Unit
CS-KE30NKU / CS-KE36NKU



Outdoor Unit
CU-KE30NKU / CS-KE36NKU



Wireless
Remote
Controller
(Included)



Wired
Remote Controller
CZ-RD515U
(Optional)

Model No.	KE30NKU		KE36NKU	
	Indoor Unit CS-KE30NKU	Outdoor Unit CU-KE30NKU	Indoor Unit CS-KE36NKU	Outdoor Unit CU-KE36NKU
Performance & Electrical Ratings				
Capacity	Cooling	Btu/h	30,600 (10,900–30,600)	34,000 (10,900–34,000)
	Heating	Btu/h	33,000 (14,000–33,000)	36,000 (14,000–36,000)
Moisture Removal	High	Pints/H	9.57	10.64
Dry Air Flow	Hi/Med/Low	CFM	630 / 530 / 412	630 / 530 / 412
SEER	Cooling		16	16
EER	Cooling		9.3	8.5
HSPF	Heating		9.0	9.0
Power Supply	V, Phase, Hz		230 / 208V, 1PH, 60Hz	230 / 208V, 1PH, 60Hz
Running Amps	Cooling	A	16.5 (5–16.5) / 18.0	20 (5–20) / 21.9
	Heating	A	15.3 (4.5–15.3) / 16.3	18.2 (4.5–18.2) / 19.9
Power Input	Cooling	W	3,290	4,000
	Heating	W	3,070	3,650
Back-up Heater		kW	---	---
Fuse or Circuit Breaker Capacity		A	35	45
Features				
Controls			Microprocessor	Microprocessor
Low Ambient Control			Built-in 0°F	Built-in 0°F
Wireless Remote Controller			Included	Included
Wired Remote Controller (optional)			CZ-RD515U & CZ-RC515UA	CZ-RD515U & CZ-RC515UA
Fan Speeds			Hi / Me / Low & Auto	Hi / Me / Low & Auto
Timer			1-hr OFF and 24-hr Program	1-hr OFF and 24-hr Program
Air Deflection	Horizontal		Manual	Manual
	Vertical		Automatic	Automatic
Air Filter			Washable	Washable
Refrigerant			R-410A	R-410A
Refrigerant control			Electronic Expansion Valve	Electronic Expansion Valve
Operation Sound	In (Hi / Me / Lo / Qt)	dB-A	49 / 44 / 39	49 / 44 / 39
	Outdoor(Hi)	dB-A	55	55
Refrigerant Piping	Type		Flare	Flare
	Discharge	inches	3/8"	3/8"
	Suction	inches	5/8"	5/8"
Refrigerant Pipe Length		Ft.	Max. 164	Max. 164
Elevation Difference	Outdoor Above	Ft.	Max. 100	Max. 100
	Outdoor Below	Ft.	Max. 50	Max. 50
Dimensions & Weight				
Height		inches	Indoor Unit: 11-3/16" Outdoor Unit: 35-13/16"	Indoor Unit: 11-3/16" Outdoor Unit: 35-13/16"
Width		inches	41-15/16"	41-15/16"
Depth		inches	9-1/16"	13-3/8"
Net Weight		Lbs.	32.0	185.0

* Field installed ** This is maximum elevation difference when the indoor unit is located above the outdoor unit.



PTAC UNITS

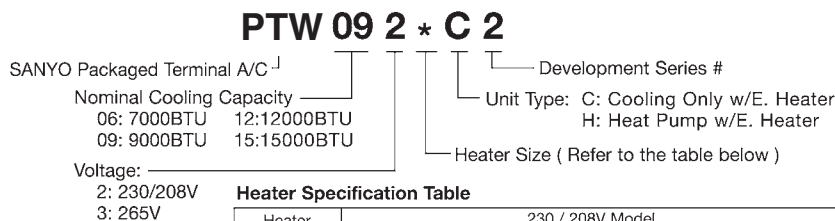
PTW-Series

MAIN FEATURES:

- Energy Efficient Operation with High EER (up to 11.6)
- Quiet 2 Fan Motors operation
- Industry Standard size (42' x 16')
- Attractive Appearance
- Easy to Operate Controls
- Solid State Control
- Fan Cycle Switch
- Discrete Electric Resistance Heater
- Freeze Protection
- 2-way Adjustable Discharge Louver
- Easy to Clean Up-front Filters
- Heat Pump Operation as low as 25°F (H/P only)
- Indoor Coil Freeze Control
- Manual Ventilation Control up to 70 CFM
- Weather-Resistant Super Seal
- Front Desk Control Capability
- Remote Control Capability
- Temperature Limiter
- Load Shedding Control Capability
- Random Restart Circuit
- Automatic Emergency Heat
- Compressor Restart Function



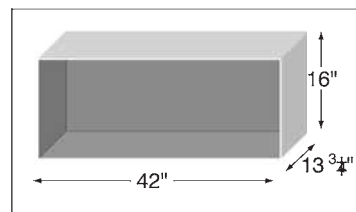
MODEL IDENTIFICATION



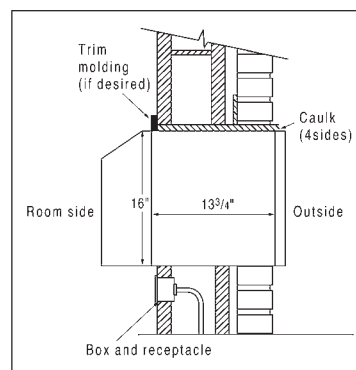
Heater Specification Table

Heater Designator	230 / 208V Model			
	Heater Amp	Watt	Min. Amp	BTU/h
2	11.1/10.0	2550/2090	15	8600/7100
3	15.0/13.6	3450/2820	20	11700/9600
5	21.7/19.7	5000/4090	30	17000/13900
Heater Designator	265V Model			
	Heater Amp	Watt	Min. Amp	BTU/h
3	11.3	3000	15	10200
4	15.1	4000	20	13600
5	18.9	5000	30	17000

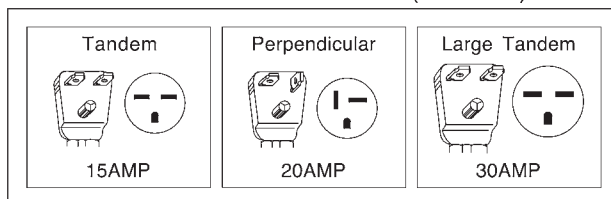
WALL CASE DIMENSIONS



MINIMUM WALL SLEEVE OPENING



CORD PLUG AND WALL OUTLET (230/208V)



SPECIFICATION

Model Number	COOLING & ELECTRIC HEATING MODEL							
	PTW072C3	PTW073C3	PTW092C3	PTW093C3	PTW122C3	PTW123C3	PTW152C3	PTW153C3
Voltage Rating	230/208	265	230/208	265	230/208	265	230/208	265
Cooling Capacity (BTU/h)	7100/7000	7100	9100/8900	9100	12000/11900	12000	14200/14000	14200
EER	11.6/11.6	11.6	11.4/11.4	11.4	10.9/10.9	10.9	9.5/9	6 9.5
Power (Watts)	610/600	610	800/780	800	1100/1090	1100	1490/1460	1490
Amp F.L.	2.7/2.9	2.4	3.5/3.8	3.1	4.9/5.4	4.2	6.9/7.2	5.8
Amp L.R.	17	13	22	15	29	24	41	31
CFM Hi	315/285	315	315/285	315	410/370	410	410/370	410
CFM Low	275/235	275	275/235	275	355/320	355	355/320	355
Moisture Removal (Pints/h)	1.8	1.8	2.3	2.3	2.8	2.8	3.8	3.8
Sensible Heat Ratio	0.71	0.71	0.71	0.71	0.69	0.69	0.65	0.65
Vent CFM	65	65	65	65	70	70	70	70
Weight (Ship/Net)	110/95	110/95	110/95	110/95	120/105	120/105	120/105	120/105



PTAC UNITS

PTB-Series

MAIN FEATURES

- Attractive Appearance
- 8 Different models which include a variety of cooling, Cool/Heat and Heat Pump
- Industry Standard Wall Sleeve (Not included) 26"(W) x 15-5/8"(H) x 16-7/8"
- Solid State Control (H/P)
- Up Front Slide Out Washable Air Filter
- Two Fan speeds and Fan Only Setting
- Slide out Chassis
- Efficient Rotary Compressor
- 2 Stage Thermostat (H/P)
- 4 Way Adjustable Air Discharge
- Hidden Vent Control
- Fan Cycle Switch
- Indoor Coil Freeze Control (H/P)
- Compressor Random Restart Function(H/P)



Model Identification

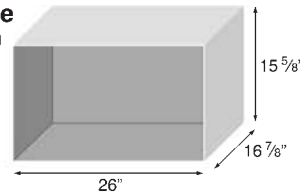
PTB 06 2 3 C 1

- Sanyo 26" Thru the wall
- Nominal Cooling Capacity
 - 08: 8000BTU
 - 10: 10000BTU
 - 11: 11000BTU
 - 12: 12000BTU
- Development Flag
- Type
 - C: Cooling H: Heat Pump
- Electric Heater size (See below)
 - 0: No Electric Heater 1: 1.2kw 3: 3.4kw
- Voltage:
 - 1: 115V 2: 230/208V

Wall Receptacles

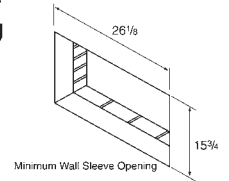


Wall Sleeve Dimension

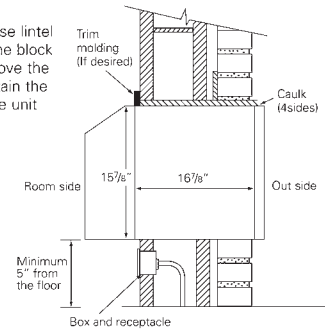


Dimension of Wall Opening

Wall opening of 26-1/8" x 15-3/4" is required

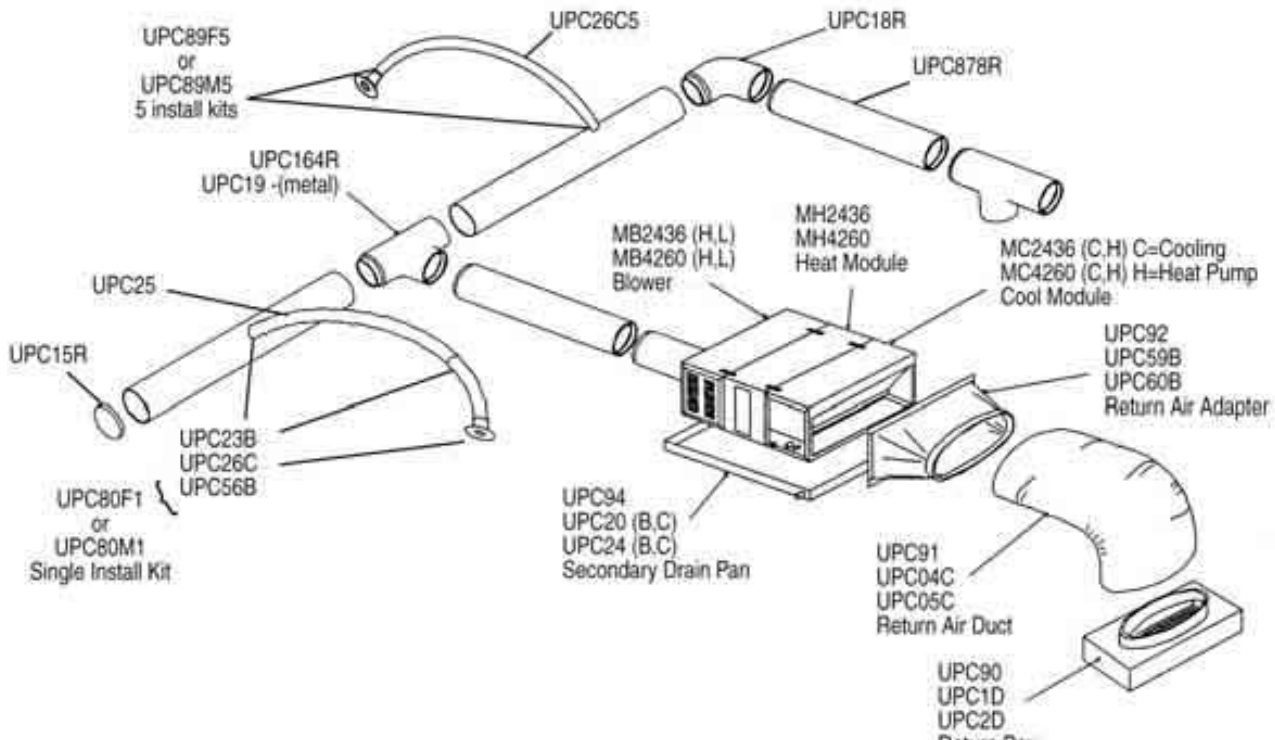


Be sure to use lintel to support the block and brick above the sleeve to retain the weight of the unit



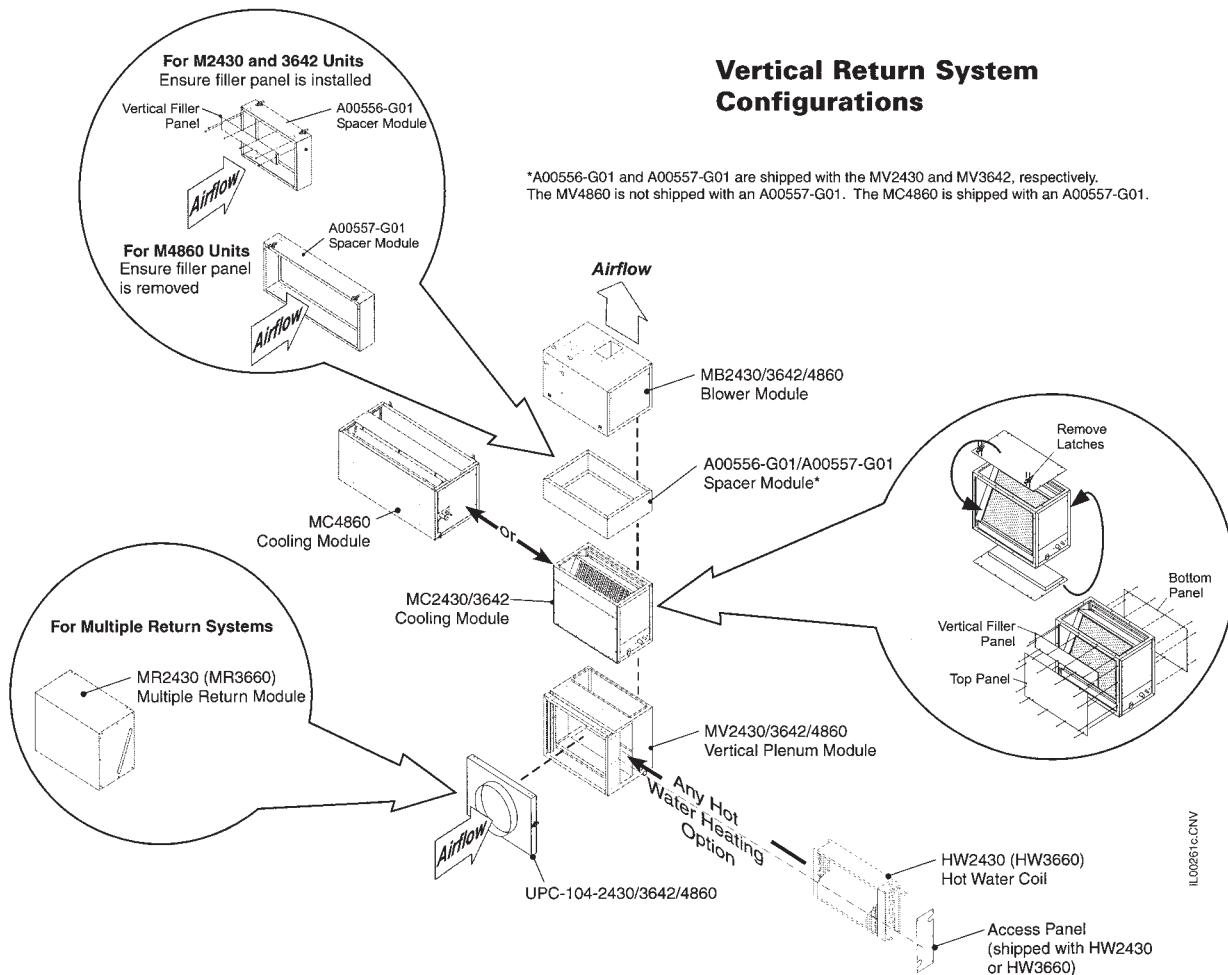
SPECIFICATION

Model Number	COOLING ONLY MODEL				COOLING & ELECTRIC HEATING MODEL		
	PTB0910C3	PTB1210C3	PTB0920C3	PTB1220C3	PTB0923C3	PTB1023C3	PTB1123C1
Voltage (V)	115	115	230/208	230/208	115	230/208	230/208
Cooling Capacity (BTU/h)	9000	12000	9000/9500	11500/11300	8000	9500/9300	11300/11000
Cooling EER (BTU/hW)	8.7	8.5	8.5/8.5	8.5/8.5	8.7	8.5/8.5	8.5/8.5
Cooling Watts (W)	940	1200	1140/1110	1350/1330	920	1120/1090	1330/1310
Cooling Amps (A)	8.3	10.6	5.0/5.3 6	1/6.6	8.3	5.0/5.3	6.0/6.5
Plug Type	Parallel	Parallel	Tandem	Tandem	Parallel	Perp.	Perp.
Recommended Circuit Protection (Time Delay) (A)	15	15	15	15	15	20	20
Electric Heating Capacity (BTU/h)					4040	11250/9200	11250/9200
Electric Heating Watts (kW)					1350	3550/2930	3550/2930
Electric Heating Amperes (A)					12.0	15.5/14.2	15.5/14.2
Dehumidification (Pints/h)	2.0	2.7	2.6	3.2	2.0	2.6	3.2
Indoor CFM (Hi / Lo)	270/240	270/240	270/240	270/240	250/220	250/220	250/220
Weight Ship / Net (lb)	93/82	101/90	100/89	104/93	93/82	100/89	106/95



Vertical Return System Configurations

*A00556-G01 and A00557-G01 are shipped with the MV2430 and MV3642, respectively. The MV4860 is not shipped with an A00557-G01. The MC4860 is shipped with an A00557-G01.



The Unico System is a small-duct central heating and air conditioning system that utilizes compact, modular air handlers and flexible 2" supply tubing to supply conditioned air to homes and commercial spaces. The flexible supply tubing snakes through a structure's existing cavities, eliminating the need for extensive remodeling or the construction of soffits or other concealments. This tubing terminates in round, plastic or wood outlets, about the size of a CD, that can be painted or stained to match any décor. A slotted outlet is also available.

The Unico System is 1/3 the size of conventional HVAC systems and can fit into smaller spaces. Once installed, the system is virtually invisible.

The modules can be arranged in a horizontal, upflow, or downflow configuration.

Blowers suffixed with an "L" are low speed modules intended for new systems and most replacement applications and provide improved efficiency and radiated sound levels. Units suffixed with an "H" are high-speed modules intended for replacement installations with existing Unico System and other high static ducts that are restrictive and impractical to upgrade.

The Unico System operates at a higher static pressure than conventional duct systems and has unique design and layout requirements for proper air distribution. It is important that the manufacturer's installation instructions be followed exactly to achieve maximum effectiveness.



BLOWER/MODULE

Match blower module with appropriate cooling/heat pump module (and/or heating module if hot water or electric heat are required).

LCB Blower modules have an electronic enhanced control board.

PSC Motor	Usage	Voltage	Tonnage	CFM @ 1.5" ESP	Dimensions (In.)			Shipping Wgt.
					W	D	H	
U1218L-1ST2EX	Blower & Coil	208-230/1/60	1 to 1 1/2	370	20	38	12	100
M2430BL1-ST2	Blower	208-230/1/60	2 to 2 1/2	600	25	13.75	17.5	62
MB2436H	Blower	208-230/1/60	2 to 3	600	25	13.75	17.5	62
M3036BL-ST2	Blower	208-230/1/60	2 1/2 to 3	1000	30	13.75	17.5	72
M3642BL-ST2	Blower	208-230/1/60	3 to 3 1/2	1000	38	13.75	17.5	72
M4860BL-ST2	Blower	208-230/1/60	4 to 5	1250	38	13.75	17.5	85
ECM Motor, SMART Board								
U1218L-1EC1EX	Blower & Coil	115/1/60	1 to 1 1/2	300, 1.2" ESP, 160W	20	38	12	100
U1218L-1EC2EX	Blower & Coil	208-230/1/60	1 to 1 1/2	300, 1.2" ESP, 160W	20	38	12	100
M2430BL1-EC1	Blower	115/1/60	2 to 2 1/2	500, 1.2" ESP, 206W	25	13.75	17.5	62
M2430BL1-EC2	Blower	208-230/1/60	2 to 2 1/2	500, 1.2" ESP, 206W	25	13.75	17.5	62
M3036BL1-EC1	Blower	115/1/60	2 1/2 to 3	500, 1.2" ESP, 206W	30	13.75	17.5	62
M3036BL1-EC2	Blower	208-230/1/60	2 1/2 to 3	500, 1.2" ESP, 206W	30	13.75	17.5	62
M3642BL1-EC1	Blower	115/1/60	3 to 3 1/2	752, 1.2" ESP, 280W	38	13.75	17.5	72
M3642BL1-EC2	Blower	208-230/1/60	3 to 3 1/2	752, 1.2" ESP, 280W	38	13.75	17.5	72
M4860BL1-EC1	Blower	115/1/60	4 to 5	1000, 1.2" ESP, 346W	38	13.75	17.5	72
M4860BL1-EC2	Blower	208-230/1/60	4 to 5	1000, 1.2" ESP, 346W	38	13.75	17.5	72

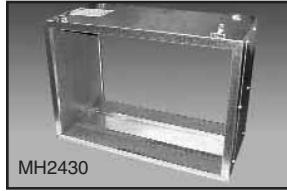


COOLING MODULE

These evaporator coil modules can be easily installed with the matching Unico System blower modules. M1218AC includes coil.

- Use unit width as a selection guide

Part No.	Usage	Tonnage	Dimensions (In.)			Shipping Wgt. (Lbs.)
			W	D	H	
M2430CL1-B	Cooling, R410A	2 to 2 1/2	25	13.75	17.5	48
M3036CL1-B	Cooling, R410A	2 1/2 to 3	30	13.75	17.5	67
MC3642CL1-B	Cooling, R410A	3 to 3 1/2	38	13.75	17.5	74
M4860CL1-B	Cooling, R410A	4 to 5	38	24	17.5	67
M2430CL1-C	Chilled Water Cooling Module	2 to 2-1/2	25	13.75	17.5	48
M3036CL1-C	Chilled Water Cooling Module	2-1/2 to 3	30	13.75	17.5	67
M3642CL1-C	Chilled Water Cooling Module	2-1/2 to 3	38	13.75	17.5	67
M4860CL1-C	Chilled Water Cooling Module	4 TO 5	38	24	17.5	105

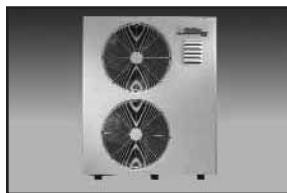


HEATING MODULE

Match with appropriate blower module for heating only applications or to improve cooling air flow and provide for future heat capability (sleeve only-add appropriate coil).

MH2430

Part No.	Tonnage	Capacity (BTUH)	Description	Dimensions (In.)			Shipping Wgt. (Lbs.)
				W	D	H	
MH2430	2 to 2 1/2	—	Sleeve only	25	12	17 1/2	20
MH3660	3 to 5	—	Sleeve only	38	12	17 1/2	27
HW2430	2 to 2 1/2	73800	Hot Water Coil only	—	—	—	33
HW3660	3 to 5	120000	Hot Water Coil only	—	—	—	48



UNICHILLER

Features

- Reverse cycle operation
- Quiet; side fan discharge system (less than 66dB)
- Sealed refrigerant system
- Stainless steel pump

Benefits

- Heats as well as cools
- Quiet operation
- No refrigerant in the conditioned space; unlimited remote location (up to 300 feet)
- Allows for multiple air handlers (zones)
- Can be banked with multiple chiller units

Part No.	Nominal Cap. (BTUH)	Voltage	Refrigerant	Dimensions (In.)			Shipping Wgt. (Lbs.)
				L	W	H	
UCHR03641C2	36000	208-230/1/60	R407C	37.5	18.9	45.75	375



ELECTRIC HEAT COIL

The electric furnaces are designed to provide primary heating or auxiliary heating in a heat pump system.

Ships with a 10" round adapter. All units 230v/1ph.

WON0752

Part No.	K.W.	System Matchup	Min. CFM
WON0202	2	All	200
WON0502	5	All	250
WON0752	7.5	All	300
WON1002	10	2430, 3642, 4860	500
WON1502	15	2430, 3642, 4860	600
WON2002	20	3642, 4860	800



VERTICAL RETURN PLENUM

The MV module features a built in secondary drain pan with a 3/4" PVC socket connection, pleated filter, and place for an optional hot water coil.

MV2430

Part No.	Tonnage	Dimensions (In.)		
		L	W	H
M2430V1	2 to 2 1/2	25	17.5	18.25
M3036V1	2 1/2 to 3	30	17.5	18.25
M3642V1	3 to 3 1/2	38	17.5	18.25
M4860V1	4 to 5	38	23	18.25



HORIZONTAL RETURN PLENUM

Vertical plenum kits include Plenum Module, Spacer Module (except 4860), pleated filter, 2 insulated filler plates and 2 brackets (except 4860), screws, latches latch keepers and insulation strips.

MR2430

Part No.	Tonnage	Dimensions (In.)		
		L	W	H
MR2430	2 to 2 1/2	25	13.75	17.5
MR3660	3 to 3 1/2	38	13.75	17.5

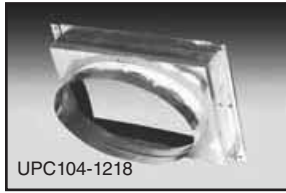


RETURN GRILLE/FILTER

Includes throwaway filter, 2 duct bands and clips.

Note: Unico supplies a return duct system, but field supplied systems are acceptable as long as pressure drop including filter does not exceed .15" W.G.

Part No.	Tonnage	Dimensions (In.)		
		L	W	Duct
UPC01-1218	1 to 1 1/2	15.5	10	12
UPC01-2430	2 to 2 1/2	25.25	14.25	14
UPC01-3036	2 1/2 to 3	30.25	14.25	16
UPC01-3642	3 to 3 1/2	30.25	14.25	18
UPC01-4860	4 to 5	30.25	24.25	20



RETURN AIR ADAPTER, HEATING MODULE

- Mates directly to heating module
- No additional fabrication
- Use for horizontal or vertical installations
- Height 17.5 in.

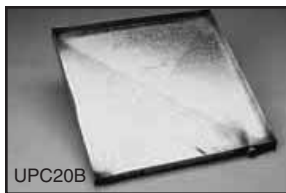


SUPPLY AIR PLENUM ADAPTER

- 1" insulation blanket provided
- Transitions blower module to indicated round duct

Part No.	Usage	Width (In.)	Duct Dia. (In.)
UPC104-1218	1218	20	12
UPC104-2430	2430	25	14
UPC104-3036	3036	30	16
UPC104-3642	3642	38	18
UPC104-4860	4860	38	20

Part No.	Usage	Diameter (In.)	Length (In.)
UPC61-1218	1218	7	12
UPC61-2430	2430	7	12
UPC61-3036	3036	9	18
UPC61-3642	3642	9	18
UPC61-4860	4860	10	18



SECONDARY DRAIN PAN

- For added protection against condensate drainage



PLENUM ADAPTER, SQUARE

Includes:

- Restrictor plate (except UPC62-1218)
- Insulation tape
- Mounting screws

Part No.	Usage	Modules	Dimensions (In.)		
			L	W	H
UPC94	1218	1	42	24	1.5
UPC20B	2430	2	31.5	29	1.5
UPC20C	2430	3	43.75	29	1.5
UPC27B	3036	2	31.5	34	1.5
UPC27C	3036	3	43.75	34	1.5
UPC24B	3642	2	31.5	42	1.5
UPC24C	3642/4860	3	43.75	42	1.5
UPC24D	4860	3	54	42	1.5

Part No.	Duct Size (In.)	Used on
UPC62-1218	6.5" x 6.5"	1218
UPC62-2430	6.5" x 6.5"	2430
UPC62-3036	8.5" x 8.5"	3036
UPC62-3642	8.5" x 8.5"	3642
UPC62-4860	9.5" x 9.5"	4860



RETURN AIR DUCT

- 10 Ft



SUPPLY DUCT

1" rigid fiberglass

Part No.	R Value	Usage	Duct Dia. (In.)
UPC04-1218	R4.2	1218	12
UPC04-2430	R4.2	2430	14
UPC04-3036	R4.2	3036	16
UPC04-3642	R4.2	3642	18
UPC04-4860	R4.2	4860	20

Part No.	Description	Length (Ft.)
SQ7	Square, 6.5" x 6.5"	4
SQ9	Square, 8.5" x 8.5"	4
SQ10	Square, 9.5" x 9.5"	4



RETURN AIR ADAPTER, COOLING MODULE

- Includes insulation wrap shipped loose

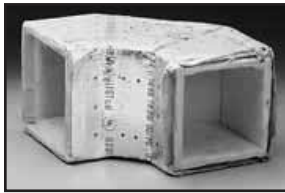


FULL FLOW TEE

1" fiberglass

Part No.	Usage	Dimensions (In.)			
		L	H	Depth	Duct
UPC59-2430	2430	23	13.5	11.5	14
UPC59-3036	3036	27	13.5	11.5	16
UPC59-3642	3642	35	13.5	10	18
UPC59-4860	4860	35	11.5	15	20

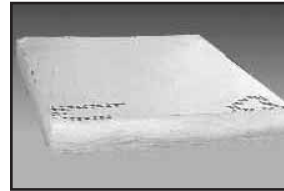
Part No.	Description
SQ7x7x7	Square, 6.5" x 6.5", with Turning Vane
SQ9x9x9	Square, 8.5" x 8.5", with Turning Vane
SQ10x10x10	Square, 9.5" x 9.5", with Turning Vane
UPC19	Metal Reducing Tee 9" x 7" x 7" w/TV



90 ELBOW*
1" fiberglass

Part No.	Description
SQ7EL	Square, 6.5" x 6.5"
SQ9EL	Square, 8.5" x 8.5"
SQ10EL	Square, 9.5" x 9.5"

*45s also available



END CAP

Part No.	Description
SQ7EC	Square, 7.5" x 7.5"
SQ9EC	Square, 8.5" x 8.5"
SQ10EC	Square, 9.5" x 9.5"



OUTLET KIT, 2 INCH

Kits include list below plus specific itemized takeoffs.
UPC56B supply outlet (off-white)
UPC53 scrim core clamp "575"
UPC52 supply tube clamp "605"

UPC51 toggle and screw
UPC35 balancing orifice kit
UPC42 winter shutoff
UPC38 supply duct coupling
Takeoff balancing cap

Part No.	Description	Includes Above Plus
UPC80F-1	Fiberglass Single Outlet Kit	UPC23 Fiberglass Takeoff + UPC26C 12' Sound Alternator tube
UPC89F	Fiberglass Multi-Install Kit	UPC23 Fiberglass Takeoffs
UPC80M-1	Metal Single Outlet Kit	UPC28 Metal Takeoff + UPC26C 12' Sound Alternator tube
UPC89M	Metal Multi-Install Kit	UPC28 Metal Takeoffs



SLOTTED OUTLET

Part No.	Description
UPC67A	90 Slotted Outlet w/hardware
UPC68	Straight Slotted Outlet w/hardware



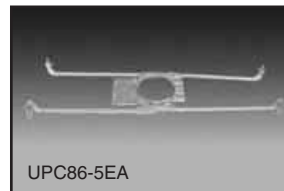
SUPPLY TERMINATOR

Part No.	Description
UPC56B	Standard 0° Outlet, 2.0"
UPC57	Oak Face 0° Outlet, 2.0"



OUTLET ACCESSORIES

Part No.	Description
UPC45	Outlet Deflector, 2", each
UPC51	Outlet Toggle and Screw pkg. 10
UPC88	Outlet Screen, 2", pkg. 20



PLASTER FRAME KIT

Designed for locating outlet before sheetrock is applied (for new construction)

- 2 Left hanger bars
- 2 Right hanger bars
- 1 Plaster frame

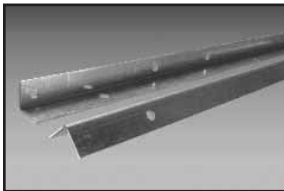
Part No.	Includes above plus
UPC86	Plaster Frame Kit, pkg. 5



TOOL

UPC54

Part No.	Description
UPC54	Clamp Pliers
UPC55	Hole Cutter



MOUNTING RAILS

- 12 ga. steel

Part No.	Description
UPC95	Mounting Rails for M1218



WINTER SHUTOFF

Part No.	Description
UPC42	Winter Supply Shutoff, 2"



PLENUM TAKE OFF

- Provides positive connection to ductwork
- UPC23 for round or square duct

UPC23B

Part No.	Tube Diameter (In.)	Description
UPC23B	2.0	For 1" Fiberglass
UPC28	2.0	For Metal, Includes Tape Ring, Gasket



TUBING CLAMP

UPC5250

Part No.	Description
UPC52	Supply Tubing Clamp, 2", pkg 50
UPC53	Sound Atten. Tube Clamp, 2", pkg 50



SOUND ATTENUATOR

- Tough aluminized mylar outer wrap
- Spun-bonded nylon and helical wire core
- Fully insulated
- 12' length
- Certified as an air duct per UL181

Part No.	ID (In.)	R-Factor	Pkg. Quantity
UPC26C	2.0	R-3.2	6



SUPPLY TUBING

- Tough aluminized mylar outer wrap
- Two-ply aluminum core
- 25' length
- Certified as an air duct per UL181

Part No.	ID (In.)	R-Factor	Pkg. Quantity
UPC25	2	R-3.2	4



BALANCING ORIFICE KIT

Takeoff kit includes:
3 disks 15% - 50%

Outlet kit includes:
3 caps 15% - 50%

Part No.	Description
UPC35-15	Takeoff Orifice Kit
UPC36-15	Outlet Orifice Kit



SUPPLY DUCT COUPLING

Includes tubing clamps and tape rings

Part No.	Description
UPC38C10EA	Supply Connector, 2.0", ea



EXPANSION VALVE, R410A

Part No.	Usage
A00805013	2 Ton, A/C
A00808014	3 to 3 1/2 Ton, A/C
A00805015	4 Ton, A/C
A00808014	3 to 3 1/2 Ton, Heat Pump
A00808015	4 Ton, Heat Pump

ELBOWS, 45°
NO. WE-504, C x C

PART #	SIZE	
	NOMINAL	O.D.
W3005	1/8"	1/4"
W3012	1/4"	3/8"
W3021	3/8"	1/2"
W3026	1/2"	5/8"
W3030	5/8"	3/4"
W3034	3/4"	7/8"
W3044	1"	1-1/8"
W3050	1-1/4"	1-3/8"
W3055	1-1/2"	1-5/8"
W3059	2"	2-1/8"
W3063	2-1/2"	2-5/8"
W3073	4"	4-1/8"



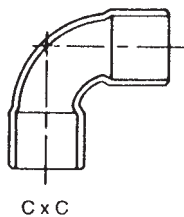
ELBOWS, 45°
NO. WE-505, FTG x C

PART #	SIZE	
	NOMINAL	O.D.
W3312	1/4"	3/8"
W3321	3/8"	1/2"
W3326	1/2"	5/8"
W3330	5/8"	3/4"
W3334	3/4"	7/8"
W3344	1"	1-1/8"
W3350	1-1/4"	1-3/8"
W3355	1-1/2"	1-5/8"
W3363	2-1/2"	2-5/8"



ELBOWS, 90° SHORT RADIUS
NO. WE-500, C x C

PART #	SIZE	
	NOMINAL	O.D.
W2003	1/8"	1/4"
W2009	1/4"	3/8"
W2017	3/8"	1/2"
W1622	1/2"	5/8"
W2028	5/8"	3/4"
W1634	3/4"	7/8"
W1647	1"	1-1/8"
W2084	1-1/4"	1-3/8"
W2085	1-1/2"	1-5/8"
W2086	2"	2-1/8"
W2087	2-1/2"	2-5/8"
W2088	3"	3-1/8"
W2089	3-1/2"	3-5/8"

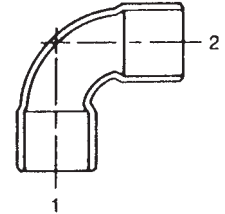


ELBOWS 90° LONG RADIUS
NO. WE-500L, C x C

PART#	SIZE NOMINAL	SIZE O.D.	PART#	SIZE NOMINAL	SIZE O.D.
W2715	1/8"	1/4"	W2734	3/4"	7/8"
W2710	--	5/16"	W2747	1"	1-1/8"
W2716	1/4"	3/8"	W2055	1-1/4"	1-3/8"
W2717	3/8"	1/2"	W2063	1-1/2"	1-5/8"
W2722	1/2"	5/8"	W2072	2"	2-1/8"
W2728	5/8"	3/4"			

ELBOWS, 90° SHORT RADIUS - REDUCING
NO. WE-500R, C x C

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W2011	1/4" x 1/8"		3/8" x 1/4"	
W2019	3/8" x 1/4"		1/2" x 3/8"	
W2023	1/2" x 3/8"		5/8" x 1/2"	
W2025	x 1/4"		x 3/8"	
W2029	5/8" x 1/2"		3/4" x 5/8"	
W2030	x 3/8"		x 1/2"	
W2035	3/4" x 5/8"		7/8" x 3/4"	
W2036	x 1/2"		x 5/8"	
W2037	x 3/8"		x 1/2"	
W2049	1" x 3/4"		1-1/8" x 7/8"	
W2050	x 5/8"		x 3/4"	
W2051	x 1/2"		x 5/8"	
W2056	1-1/4" x 1"		1-3/8" x 1-1/8"	
A2638*	x 3/4"		x 7/8"	
W2077	1- x 1-1/4"		1-5/8" x 1-3/8"	
W2078	2" x 1-1/2"		2-1/8" x 1-5/8"	
A2778*	3" x 2"		3-1/8" x 2-1/8"	



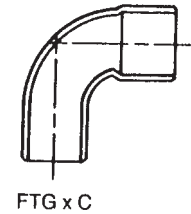
* CAST BRONZE

ELBOWS, 90° LONG RADIUS - REDUCING
NO. WE-500LR, C x C

PART #	SIZE NOMINAL	SIZE O.D.
W2067	1-1/2" x 3/4"	1-5/8" x 7/8"

ELBOWS, 90° SHORT RADIUS
NO. WE-503, FTG x C

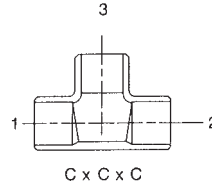
PART #	SIZE NOMINAL	SIZE O.D.
W2312	1/4"	3/8"
W2321	3/8"	1/2"
W1652	1/2"	5/8"
W2330	5/8"	3/4"
W1654	3/4"	7/8"
W2344	1"	1-1/8"
W2384	1-1/4"	1-3/8"
W2385	1-1/2"	1-5/8"
W2386	2"	2-1/8"
W2387	2-1/2"	2-5/8"
W2388	3"	3-1/8"
W2390	4"	4-1/8"



ELBOWS, 90° LONG RADIUS
NO. WE-503L, FTG x C

PART #	SIZE NOMINAL	SIZE O.D.
W2822	1/2"	5/8"
W2828	5/8"	3/4"
W2834	3/4"	7/8"
W2847	1"	1-1/8"
W2350	1-1/4"	1-3/8"

TEES



TEES - REDUCING
ON. WT-600R, RR, BH

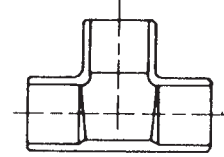
PART #	SIZE NOMINAL			SIZE O.D.		
	1	2	3	1	2	3
W40368	1/8	x 1/8	x 1/4	1/4	x 1/4	x 3/8
W4016	1/4	x 1/4	x 1/2	3/8	x 3/8	x 5/8
W4005			x 3/8			x 1/2
W40324			x 1/8			x 1/4
W40330		1/8	x 1/4		1/4	x 3/8
W40332			x 1/8			x 1/4
W4015	3/8	x 3/8	x 1/2	1/2	x 1/2	x 5/8
W4002			x 1/4			x 3/8
W40350			x 1/8			x 1/4
W4003		x 1/4	x 3/8		x 3/8	x 1/2
W4004			x 1/4			x 3/8
W40363		x 1/8	x 3/8		x 1/4	x 1/2
W40366			x 1/8			x 1/4
W4047	1/2	x 1/2	x 3/4	5/8	x 5/8	x 7/8
W4029			x 5/8			x 3/4
W4007			x 3/8			x 1/2
W4008			x 1/4			x 3/8
W4009		x 3/8	x 1/2		x 1/2	x 5/8
W4010			x 3/8			x 1/2
W4012		x 1/4	x 1/2		x 3/8	x 5/8
W4013			x 1/4			x 3/8
W4046	5/8	x 5/8	x 3/4	3/4	x 3/4	x 7/8
W4018			x 1/2			x 5/8
W4019			x 3/8			x 1/2
W4020			x 1/4			x 3/8
W4021		x 1/2	x 5/8		x 5/8	x 3/4
W4022			x 1/2			x 5/8
W4025		x 3/8	x 5/8		x 1/2	x 3/4
W4027			x 3/8			x 1/2
W4065	3/4	x 3/4	x 1	7/8	x 7/8	x 1-1/8
W4032			x 5/8			x 3/4
W4033			x 1/2			x 5/8
W4034			x 3/8			x 1/2
W4036		x 5/8	x 3/4		x 3/4	x 7/8
W4041		x 1/2	x 3/4		x 5/8	x 7/8
W4043			x 1/2			x 5/8
W4044			x 3/8			x 1/2
W40232		x 3/8	x 3/8		x 1/2	x 1/2
W4049	1	x 1	x 3/4	1-1/8	x 1-1/8	x 7/8
W4051			x 1/2			x 5/8
W4055		x 3/4	x 1		x 7/8	x 1-1/8
W4056			x 3/4			x 7/8
W4059			x 3/8			x 1/2
W4061		x 1/2	x 1		x 5/8	x 1-1/8
W4062			x 3/4			x 7/8
W40100	1-1/4	x 1-1/4	x 1-1/2	1-3/8	x 1-3/8	x 1-5/8
W4069			x 1			x 1-1/8
W4070			x 3/4			x 7/8
W4071			x 1/2			x 5/8
W4073		x 1	x 1-1/4		x 1-1/8	x 1-3/8

PART #	SIZE NOMINAL			SIZE O.D.		
	1	2	3	1	2	3
W4074	1-1/4	x 1	x 1	1-3/8	x 1-1/8	x 1-1/8
W4075			x 3/4			x 7/8
W4076			x 1/2			x 5/8
W4078		x 3/4	x 1-1/4		x 7/8	x 1-3/8
W4080			x 3/4			x 7/8
W40121	1-1/2	x 1-1/2	x 2	1-5/8	x 1-5/8	x 2-1/8
W4085			x 1-1/4			x 1-3/8
W4086			x 1			x 1-1/8
W4087			x 3/4			x 7/8
W4088			x 1/2			x 5/8
W4090	1-1/2	x 1-1/4	x 1-1/2	1-5/8	x 1-3/8	x 1-5/8
W4091			x 1-1/4			x 1-3/8
W4092			x 1			x 1-1/8
W4093			x 3/4			x 7/8
W4095		x 1	x 1-1/2		x 1-1/8	x 1-5/8
W4096			x 1-1/4			x 1-3/8
W4097			x 1			x 1-1/8
W4098			x 3/4			x 7/8
W4099		x 3/4	x 1-1/2		x 7/8	x 1-5/8
W40244		x 1/2	x 1-1/2		x 5/8	x 1-5/8
W40144	2	x 2	x 2-1/2	2-1/8	x 2-1/8	x 2-5/8
W40103			x 1-1/2			x 1-5/8
W40104			x 1-1/4			x 1-3/8
W40105			x 1			x 1-1/8
W40106			x 3/4			x 7/8
W40107			x 1/2			x 5/8
W40109		x 1-1/2	x 2		x 1-5/8	x 2-1/8
W40110			x 1-1/2			x 1-5/8
W40111			x 1-1/4			x 1-3/8
W40113			x 3/4			x 7/8
W40114			x 1/2			x 5/8
W40115		x 1-1/4	x 2		x 1-3/8	x 2-1/8
W40245		x 1	x 2		x 1-1/8	x 2-1/8
W40248		x 3/4	x 2		x 7/8	x 2-1/8
A1812	2-1/2	x 2-1/2	x 3	2-5/8	x 2-5/8	x 3-1/8
W40124			x 2			x 2-1/8
W40125			x 1-1/2			x 1-5/8
W40126			x 1-1/4			x 1-3/8
W40127			x 1			x 1-1/8
W40129			x 1/2			x 5/8
W40132		x 2	x 1-1/2		x 2-1/8	x 1-5/8
W40149	3	x 3	x 1-1/2	3-1/8	x 3-1/8	x 1-5/8
W40145			x 1/2			x 5/8
W40167		x 2	x 3		x 2-1/8	x 3-1/8
W40196	4	x 4	x 2	4-1/8	x 4-1/8	x 2-1/8
W40195			x 1-1/2			x 1-5/8

**TEES,
NO. WT-600**

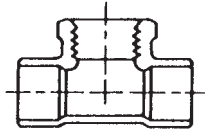
PART #	SIZE NOMINAL	SIZE O.D.
W40306	1/8"	1/4"
W40313	--	5/16"
W4000	1/4"	3/8"
W4001	3/8"	1/2"
W4006	1/2"	5/8"
W4017	5/8"	3/4"
W4031	3/4"	7/8"

PART #	SIZE NOMINAL	SIZE O.D.
W4048	1"	1-1/8"
W4068	1-1/4"	1-3/8"
W4084	1-1/2"	1-5/8"
W40102	2"	2-1/8"
W40123	2-1/2"	2-3/8"



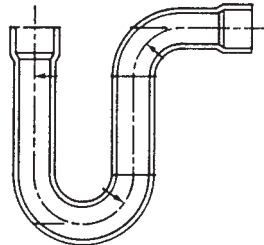
**TEES, FORGED BRASS
NO. WT-602 CxCxF**

PART #	SIZE NOMINAL			SIZE O.D.		
	1	2	3	1	2	3
W4228	1/4	x 1/4	x 1/4	3/8	x 3/8	x 3/8
W4229	1/4	x 1/4	x 1/8	3/8	x 3/8	x 1/4
W4259	3/8	x 3/8	x 1/4	1/2	x 1/2	x 3/8
W4283	1/2	x 1/2	x 3/8	5/8	x 5/8	x 1/2



**SUCTION LINE P-TRAPS
NO. WE-544P**

PART #	SIZE NOMINAL	SIZE O.D.
W60999	1/2"	5/8"
W61008	5/8"	3/4"
W61000	3/4"	7/8"
W61001	1"	1-1/8"
W61002	1-1/4"	1-3/8"



C x C

SA-902 SANDCLOTH

PART #
WG SC10

If you can't find what you need...

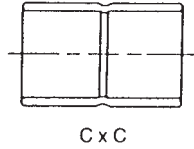
CALL US

We have it or can get it

COUPLINGS

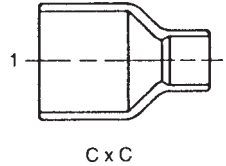
COUPLINGS, ROLLED STOP
NO. WC-400, C x C

PART #	SIZE NOMINAL	SIZE O.D.
W1000	--	1/8"
W1003	--	1/4"
W1009	1/4"	3/8"
W1017	3/8"	1/2"
W1022	1/2"	5/8"
W1028	5/8"	3/4"
W1034	3/4"	7/8"
W1047	1"	1-1/8"
W1055	1-1/4"	1-3/8"
W1063	1-1/2"	1-5/8"
W1072	2"	2-1/8"
W1082	2-1/2"	2-5/8"



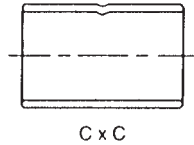
COUPLINGS, REDUCING
NO. WC-400R, C X C

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1002	--	--	3/16 x 1/8	
W1005	--	--	1/4 x 1/8	
W1010	--	--	3/8 x 5/16	
W1019	3/8 x 1/4		1/2 x 3/8	
W1021	x 1/8		x 1/4	
W1023	1/2 x 3/8		5/8 x 1/2	
W1025	x 1/4		x 3/8	
W1029	5/8 x 1/2		3/4 x 5/8	
W1030	x 3/8		x 1/2	
W1031	x 1/4		x 3/8	
W1035	3/4 x 5/8		7/8 x 3/4	
W1036	x 1/2		x 5/8	
W1037	x 3/8		x 1/2	
W1038	x 1/4		x 3/8	
W1049	1 x 3/4		1-1/8 x 7/8	
W1050	1 x 5/8		1-1/8 x 3/4	
W1051	x 1/2		x 5/8	
W1052	x 3/8		x 1/2	
W1056	1-1/4 x 1		1-3/8 x 1-1/8	
W1058	x 3/4		x 7/8	
W1060	x 1/2		x 5/8	
W1064	1-1/2 x 1-1/4		1-5/8 x 1-3/8	
W1065	x 1		x 1-1/8	
W1067	x 3/4		x 7/8	
W1073	2 x 1-1/2		2-1/8 x 1-5/8	
W1074	x 1-1/4		x 1-3/8	
W1075	x 1		x 1-1/8	
W1079	x 1/2		x 5/8	
W1083	2-1/2 x 2		2-5/8 x 2-1/8	
W1084	x 1-1/2		x 1-5/8	
W1093	3 x 2-1/2		3-1/8 x 2-5/8	



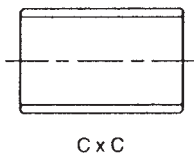
COUPLINGS, STAKED STOP
NO. WC-400S, C X C

PART #	SIZE NOMINAL	SIZE O.D.
W10142	--	5/16"



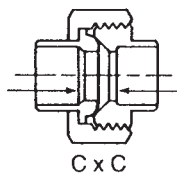
COUPLINGS, NO STOP
NO. WC-400NS, C x C

PART #	SIZE NOMINAL	SIZE O.D.
W1901	1/4"	3/8"
W1902	3/8"	1/2"
W1903	1/2"	5/8"
W1904	5/8"	3/4"
W1905	3/4"	7/8"
W1906	1"	1-1/8"
W1907	1-1/4"	1-3/8"
W1908	1-1/2"	1-5/8"
W1909	2"	2-1/8"



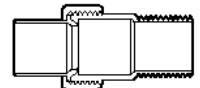
COUPLINGS, UNION
NO. WC-407, C x C

PART #	SIZE NOMINAL	SIZE O.D.
W8003	1/2"	5/8"
W8004	3/4"	7/8"
W8005	1"	1-1/8"
A11205*	1-1/4"	1-3/8"
A11206*	1-1/2"	1-5/8"
A11207*	2"	2-1/8"



COUPLINGS, UNION
NO. C-108, C x MPT

PART #	SIZE NOMINAL	SIZE O.D.
A11211*	3/4 x 3/4"	7/8 x 3/4"



*Cast Bronze

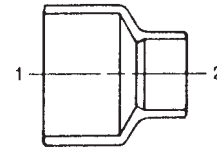
BUSHINGS

BUSHINGS, EXTENDED

NO. WC-403, FTG x C

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1306	1/4	x 1/8	3/8	x 1/4
W1312	3/8	x 1/4	1/2	x 3/8
W1314	3/8	x 1/8	1/2	x 1/4
W1315	1/2	x 3/8	5/8	x 1/2
W1317	1/2	x 1/4	5/8	x 3/8
W1320	5/8	x 1/2	3/4	x 5/8
W1321	5/8	x 3/8	3/4	x 1/2
W1325	3/4	x 5/8	7/8	x 3/4
W1326	3/4	x 1/2	7/8	x 5/8
W1327	3/4	x 3/8	7/8	x 1/2
W1337	1	x 3/4	1-1/8	x 7/8

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1338	1	x 5/8	1-1/8	x 3/4
W1339	1	x 1/2	1-1/8	x 5/8
W1343	1-1/4	x 1	1-3/8	x 1-1/8
W1345	1-1/4	x 3/4	1-3/8	x 7/8
W1350	1-1/2	x 1-1/4	1-5/8	x 1-3/8
W1351	1-1/2	x 1	1-5/8	x 1-1/8
W1358	2	x 1-1/2	2-1/8	x 1-5/8
W1359	2	x 1-1/4	2-1/8	x 1-3/8



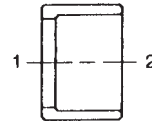
FTG x C

BUSHINGS, FLUSH

NO. WC-106, FTG x C

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1706	1/4	x 1/8	3/8	x 1/4
W1712	3/8	x 1/4	1/2	x 3/8
W1714	x	1/8	x	1/4
W1715	1/2	x 3/8	5/8	x 1/2
W1717	x	1/4	x	3/8
W1720	5/8	x 1/2	3/4	x 5/8
W1721	x	3/8	x	1/2
W1725	3/4	x 5/8	7/8	x 3/4
W1726	x	1/2	x	5/8
W1727	x	3/8	x	1/2

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1737	1	x 3/4	1-1/8	x 7/8
W1738	x	5/8	x	3/4
W1739	x	1/2	x	5/8
W1743	1-1/4	x 1	1-3/8	x 1-1/8
W1745	x	3/4	x	7/8
W1751	1-1/2	x 1	1-5/8	x 1-1/8
W1758	2	x 1-1/2	2-1/8	x 1-5/8
W1759	x	1-1/4	x	1-3/8



FTG x C

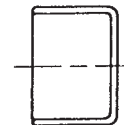
CAPS

CAPS,

NO. WC-415, C

PART #	SIZE NOMINAL	SIZE O.D.
W7002	1/8"	1/4"
W7004	1/4"	3/8"
W7006	3/8"	1/2"
W7007	1/2"	5/8"
W7008	5/8"	3/4"
W7009	3/4"	7/8"

PART #	SIZE NOMINAL	SIZE O.D.
W7011	1"	1-1/8"
W7012	1-1/4"	1-3/8"
W7013	1-1/2"	1-5/8"
W7014	2"	2-1/8"
W7015	2-1/2"	2-5/8"



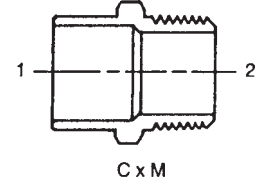
C

ADAPTORS

**ADAPTORS,
NO. WC-401, C x M**

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1106	1/8	x 1/4	1/4	x 1/4
W1110	—		5/16	x 1/4
W1114	1/4	x 3/8	3/8	x 3/8
W1115		x 1/4		x 1/4
W1124	3/8	x 1/2	1/2	x 1/2
W1125		x 3/8		x 3/8
W1126		x 1/4		x 1/4
W1129	1/2	x 1	5/8	x 1
W1130		x 3/4		x 3/4
W1131		x 1/2		x 1/2
W1132		x 3/8		x 3/8
W1139	5/8	x 1/2	3/4	x 1/2
W1145	3/4	x 1	7/8	x 1
W1146		x 3/4		x 3/4

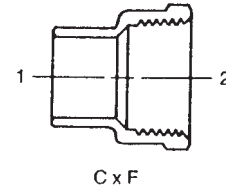
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1147	3/4	x 1/2	7/8	x 1/2
W1162	1	x 1-1/4	1-1/8	x 1-1/4
W1163		x 1		x 1
W1164		x 3/4		x 3/4
W1165		x 1/2		x 1/2
W1170	1-1/4	x 1-1/2	1-3/8	x 1-1/2
W1171		x 1-1/4		x 1-1/4
W1172		x 1		x 1
W1179	1-1/2	x 1-1/2	1-5/8	x 1-1/2
W1180		x 1-1/4		x 1-1/4
W1187	2	x 2	2-1/8	x 2
W1188		x 1-1/2		x 1-1/2
W1196	2-1/2	x 2-1/2	2-5/8	x 2-1/2
W1199	3	x 3	3-1/8	x 3



**ADAPTORS,
NO. WC-402, C x FPT**

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1205	1/8	x 3/4	1/4	x 3/8
W1206		x 1/4		x 1/4
W1214	1/4	x 3/8	3/8	x 3/8
W1215		x 1/4		x 1/4
W1223	3/8	x 3/4	1/2	x 3/4
W1224		x 1/2		x 1/2
W1225		x 3/8		x 3/8
W1230	1/2	x 3/4	5/8	x 3/4
W1231		x 1/2		x 1/2
W1232		x 3/8		x 3/8
W1233		x 1/4		x 1/4
W1238	5/8	x 3/4	3/4	x 3/4
W1239		x 1/2		x 1/2
W1245	3/4	x 1	7/8	x 1

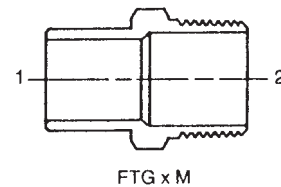
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1246	3/4	x 3/4	7/8	x 3/4
W1247		x 1/2		x 1/2
W1263	1	x 1	1-1/8	x 1
W1264		x 3/4		x 3/4
W1265		x 1/2		x 1/2
W1270	1-1/4	x 1-1/2	1-3/8	x 1-1/2
W1271		x 1-1/4		x 1-1/4
W1272		x 1		x 1
W1278	1-1/2	x 2	1-5/8	x 2
W1279		x 1-1/2		x 1-1/2
W1287	2	x 2	2-1/8	x 2
W1296	2-1/2	x 2-1/2	2-5/8	x 2-1/2



**ADAPTORS
NO. WC-404, FTG x M**

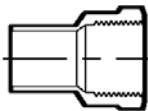
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1425	3/8	x 3/8	1/2	x 3/8
W1431	1/2	x 1/2	5/8	x 1/2
W1432		x 3/8		x 3/8
W1446	3/4	x 3/4	7/8	x 3/4

PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1447	3/4	x 1/2	7/8	x 1/2
W1463	1	x 1	1-1/8	x 1
W1464		x 3/4		x 3/4
W1471	1-1/4	x 1-1/4	1-3/8	x 1-1/4



ADAPTORS

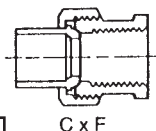
FITTING
WC-405, FTG x FPT



PART # *	SIZE NOMINAL	SIZE O.D.
W1514	1/4 x 3/8	3/8 x 3/8
W1525	3/8 x 3/8	1/2 x 3/8
W1531	1/2 x 1/2	5/8 x 1/2
W1532	x 3/8	x 3/8
W1546	3/4 x 3/4	7/8 x 3/4
W1547	x 1/2	x 1/2
W1563	1 x 1	1-1/8 x 1
W1571	1-1/4 x 1-1/4	1-3/8 x 1-1/4
W1579	1-1/2 x 1-1/2	1-5/8 x 1-1/2
W1587	2 x 2	2-1/8 x 2

ADAPTORS

UNION
C-109, C x FPT

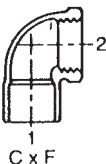


PART # *	SIZE NOMINAL	SIZE O.D.
A11422	1/2"	5/8"
A11423	3/4"	7/8"
A11424	1"	1-1/8"
A11425	1-1/4"	1-3/8"
A11426	1-1/2"	1-5/8"

*CAST BRONZE

ELBOWS

REDUCING ELBOW - 90°,
E-202, C x FPT



PART # *	SIZE NOMINAL	SIZE O.D.
A2641	1-1/4 x 1-1/2	1-3/8 x 1-5/8

*CAST BRONZE

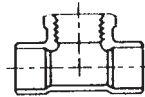
HIGH EAR ELBOW - 90°,
E-211HE, C x FPT

PART # *	SIZE NOMINAL	SIZE O.D.
A3038	1/2"	5/8"

*CAST BRONZE

TEES

TEE, REDUCING
T-302, C X C x FPT

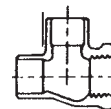


PART # *	SIZE NOMINAL	SIZE O.D.
A1512	1/2 x 1/2 x 1/2	5/8 x 5/8 x 1/2
A1538	3/4 x 3/4 x 3/4	7/8 x 7/8 x 3/4
A1539	x 1/2	x 1/2
A2655	1-1/4 x 1-1/4 x 1	1-3/8 x 1-3/8 x 1
A1644	1-1/2 x 1-1/2 x 1-1/2	1-5/8 x 1-5/8 x 1-1/2
A3663	x 1-1/4	x 1-1/4
A2688	x 1	x 1
A2673	x 3/4	x 3/4
A2703	2 x 2 x 1	2-1/8 x 2-1/8 x 1
A2706	x 3/4	x 3/4

*CAST BRONZE

TEE

T-303, C x FPT x C



C x F x C

PART # *	SIZE NOMINAL	SIZE O.D.
A1548	3/4 x 3/4 x 3/4	7/8 x 3/4 x 7/8

*CAST BRONZE

TEE, BASEBOARD
NO. T-301, C x FPT x C



C x F x C

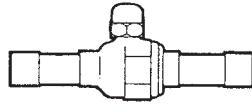
PART # *	SIZE NOMINAL	SIZE O.D.
A7750	1/2 x 1/8 x 1/2	5/8 x 1/8 x 5/8
A7751	3/4 x 1/8 x 3/4	7/8 x 1/8 x 7/8
A7754	1 x 1/8 x 1	1-1/8 x 1/8 x 1-1/8
A7775	1-1/4 x 1/8 x 1-1/4	1-3/8 x 1/8 x 1-3/8

*CAST BRONZE

COMPRESSOR VALVES

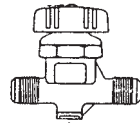
BALL VALVES
 COMPATIBLE WITH REFRIGERANTS R-11, R-12,
 R-22, R-500, R-502.

PART #	SIZE O.D.
904203	3/8"
904204	1/2"
904205	5/8"
904307	7/8"
905409	1-1/8"
904511	1-3/8"
905613	1-5/8"
905717	2-1/8"



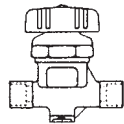
PACKLESS LINE VALVES
 FLARE TO FLARE, TYPE I, CLASS IV

PART #	SIZE O.D.
A14833	1/4"
A14835	3/8"
A14836	1/2"
A14837	5/8"



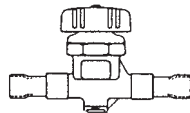
SOLDER TO SOLDER, TYPE I, CLASS II

PART #	SIZE O.D.
A14842	5/8"



EXTENDED END, TYPE I, CLASS II

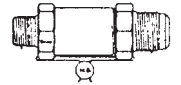
PART #	SIZE O.D.
A14848	1/4"
A14850	3/8"



PRESSURE RELIEF VALVES

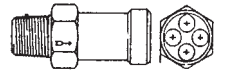
MPT INLET TO FLARE

PART # - PSI	INLET	OUTLET
5230-350 5230-425	1/4"	3/8"
5231-235 5231-350 5231-425	3/8"	3/8"
5232-350 5232-425	1/2"	5/8"



ATMOSPHERIC - MPT INLET

PART # - PSI	INLET	OUTLET
HE 5221-425	1/4"	N/A



VIBRATION ABSORBERS
 SWEAT CONNECTION



PART #	SIZE / ID	SIZE / OD	MAX. PSI
F14	1/8"	1/4"	800
F38	1/4"	3/8"	800
F12	3/8"	1/2"	600
F58	1/2"	5/8"	500
F34	5/8"	3/4"	430
F78	3/4"	7/8"	370
F118	1"	1-1/8"	250
F138	1-1/4"	1-3/8"	200
F158	1-1/2"	1-5/8"	190
F218	2"	2-1/8"	170



NITROGENIZED® ACR COPPER TUBE
20 FT. LENGTHS

PART #	SIZE O.D.	WALL THICKNESS
3/8ACR	3/8"	.030
1/2ACR	1/2"	.035
5/8ACR	5/8"	.040
3/4ACR	3/4"	.042
7/8ACR	7/8"	.045
1-1/8ACR	1-1/8"	.050
1-3/8ACR	1-3/8"	.055
1-5/8ACR	1-5/8"	.060
2-1/8ACR	2-1/8"	.070
2-5/8ACR	2-5/8"	.080

TYPE L
20 FT. LENGTHS

PART #	SIZE O.D.	SIZE NOMINAL	WALL THICKNESS
3/8L	1/2"	3/8"	.035
1/2L	5/8"	1/2"	.040
3/4L	7/8"	3/4"	.045
1L	1-1/8"	1"	.050
1-1/4L	1-3/8"	1-1/4"	.055
1-1/2L	1-5/8"	1-1/2"	.060
2L	2-1/8"	2"	.070
2-1/2L	2-5/8"	2-1/2"	.080

TYPE M
20 FT. LENGTHS

PART #	SIZE O.D.	SIZE NOMINAL	WALL THICKNESS
3/8M	1/2"	3/8"	.025
1/2M	5/8"	1/2"	.028
3/4M	7/8"	3/4"	.032
1M	1-1/8"	1"	.035
1-1/4M	1-3/8"	1-1/4"	.042
1-1/2M	1-5/8"	1-1/2"	.049
2M	2-1/8"	2"	.058
3M	3-1/8"	3"	.072
4M	4-1/8"	4"	.095

REFRIGERATION SERVICE TUBE
50 FT. COILS



PART #	SIZE O.D.	WALL THICKNESS
1/8REF	1/8"	.030
3/16REF	3/16"	.030
1/4REF	1/4"	.030
5/16REF	5/16"	.032
3/8REF	3/8"	.032
1/2REF	1/2"	.032
5/8REF	5/8"	.035
5/8REF-100	5/8"	.035
3/4REF	3/4"	.035
7/8REF	7/8"	.045
1-1/8REF	1-1/8"	.050

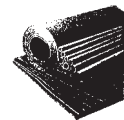


LINE SETS

PART #	LIQUID LINE	SUCTION LINE	INSULATION	LENGTH
610-25	3/8	5/8	3/8	25'
610-35	3/8	5/8	3/8	35'
610-50	3/8	5/8	3/8	50'
612-25	3/8	3/4	3/8	25'
612-35	3/8	3/4	3/8	35'
612-50	3/8	3/4	3/8	50'
614-25	3/8	7/8	3/8	25'
614-35	3/8	7/8	3/8	35'
614-50	3/8	7/8	3/8	50'

COPPER TUBE INSULATION

6' LENGTH, 3/8" WALL



PART #	SIZE	PART #	SIZE
38	3/8"	138	1-3/8"
12XX	1/2"	158	1-5/8"
58	5/8"	218	2-1/8"
34	3/4"	258	2-5/8"
78	7/8"	318X	3-1/8"
118	1-1/8"		

INSULATED SHEET

CONTINUOUS ROLLS

PART #	SIZE / IN.	THICKNESS
3648-34	36 x 48	3/4"
3648-1	36 x 48	1"

FLARED BRASS TUBE FITTINGS

FLARE NUT - OIL

PART #	TUBE - OD
41C	1/4
41 F	1/2
41 H	5/8



FORGED FLARE NUT - REFRIG.

PART #	TUBE - OD
NS4C	1/4
NS4D	5/16
NS4E	3/8
NS4F	1/2
NS4FE	1/2 x 3/8
NS4H	5/8
NS4J	3/4
NS4M	7/8



SWIVEL FORGED NUT CONNECTOR

PART #	TUBE - OD
US4C	1/4 x 1/4
US4D	5/16 x 5/16
US4E	3/8 x 3/8
US4H	5/8 x 5/8
US4J	3/4 x 3/4



UNIONS

PART #	TUBE - OD
42C	1/4 x 1/4
42D	5/16 x 5/16
42E	3/8 x 3/8
G42EC	3/8 x 1/4
42H	5/8 x 5/8
42J	3/4 x 3/4
42M	7/8 x 7/8



FEMALE CONNECTOR

PART #	TUBE - OD
46C	1/4 x 1/8
46CF	1/4 x 1/2



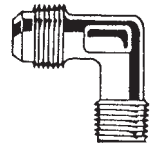
MALE CONNECTOR (FL x MPT)

PART #	TUBE - OD
48C	1/4 x 1/8
48CC	1/4 x 1/4
48CE	1/4 x 3/8
48E	3/8 x 1/8
48EE	3/8 x 1/4
48EEE	3/8 x 3/8
48EF	3/8 x 1/2
48F	1/2 x 3/8
48FF	1/2 x 1/2
48H	5/8 x 1/2
48J	3/4 x 1/2
48JJ	3/4 x 3/4
48MJ	7/8 x 3/4



MALE ELBOW

PART #	TUBE - OD x MPT
49C	1/4 x 1/8
49CC	1/4 x 1/4
49CE	1/4 x 3/8
49DE	5/16 x 3/8
49EE	3/8 x 1/4
49EEE	3/8 x 3/8
49EF	3/8 x 1/2
49F	1/2 x 3/8
49FF	1/2 X 1/2
49H	5/8 X 1/2
49HJ	5/8 x 3/4
49J	3/4 x 1/2



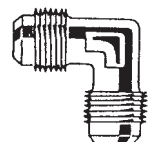
FLARE PLUG

PART #	TUBE - OD
P2D	5/16
P2H	5/8
P2J	3/4



FLARE UNION ELBOW

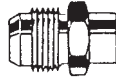
PART #	TUBE - OD
55C	1/4
55E	3/8



FLARED BRASS TUBE FITTINGS

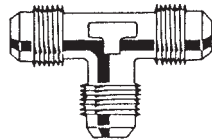
SOLDER CONNECTOR
FLARE x SOLDER TUBE

PART #	TUBE - OD
US3-CC	1/4 x 1/4
US3FF	1/2 x 1/2



FLARE TEE

PART #	TUBE - OD
44C	1/4
44D	5/16
44E	3/8
44F	1/2
44H	5/8
44 J	3/4



DRUM CONNECTOR

PART #	TUBE - OD x MPT
K1-1	1/4 x 3/4
K1-8	1/4 x 1/2



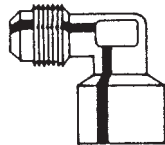
GASKET

PART #	TUBE - OD
K1-F	1/2
K1J	3/4



ELBOW
TUBE x FEMALE THREAD

PART #	SIZE
E4C	1/4 x 1/4
E4E	3/8 x 3/8
E4F	1/2 x 1/2



GASKET
45° COPPER FLARE

PART #	TUBE - OD
B2B	3/16
B2E	3/8
B2F	1/2
B2H	3/4



REDUCING FLARE UNION

PART #	TUBE - OD
G42EC	3/8 x 1/4
UR2-84	1/2 x 1/4
UR2-86	1/2 x 3/8
UR2-106	5/8 x 3/8



FEMALE FLARE CONNECTOR

PART #	TUBE - OD x FPT
46C	1/4 x 1/8
U3-4B	1/4 x 1/4
46CF	1/4 x 3/8
U3-4D	1/4 x 1/2
U3-6A	3/8 x 1/8
U3-6C	3/8 x 3/8
U3-6D	3/8 x 1/2
U3-8B	1/2 x 1/4
U3-8C	1/2 x 3/8
U3-8D	1/2 x 1/2
U3-8E	1/2 x 3/4
U3-10C	5/8 x 3/8
U3-10D	5/8 x 1/2
U3-10E	5/8 x 3/4



REDUCING FLARE FITTING
FEMALE x MALE

PART #	SIZE
UR3-44	1/4 x 1/4
UR3-45	1/4 x 5/16
UR3-46	1/4 x 3/8
UR3-48	1/4 x 1/2
UR3-54	5/16 x 1/4
UR3-68	3/4 x 1/2
UR3-86	1/2 x 3/8
UR3-810	1/2 x 5/8
UR3-106	5/8 x 3/8
UR3-108	5/8 x 1/2



BRASS COMPRESSION FITTINGS

SLEEVE

PART #	TUBE - OD
60C	1/4
60D	5/16
60E	3/8
60F*	1/2
60H*	5/8
60M	7/8



*HEAVY

STANDARD NUT

PART #	TUBE - OD
61C	1/4
61D	5/16
61E	3/8
61F	1/2
61H*	5/8
61J	3/4



UNION

PART #	TUBE - OD
62A	1/8
62B	3/16
62C	1/4
62D	5/16
62E	3/8
62F*	1/2
62H*	5/8
62M	7/8



*HEAVY

REDUCING UNION

PART #	SIZE
62REC	3/8 x 1/4
62RFE	1/2 x 3/8
62RHF	5/8 x 1/2



PILOT LINE CONTROL NUT FOR THERMOSTATS

PART #	TUBE - OD
81 LC	1/4



MALE CONNECTOR

PART #	TUBE - OD x MPT
68A	1/8 x 1/8
68C	1/4 x 1/8
68CC	1/4 x 1/4
68E	3/8 x 1/8
68EE	3/8 x 1/4
68EEE	3/8 x 3/8
68EJ	3/8 x 3/4
68F*	1/2 x 3/8
68FF*	1/2 x 1/2
68FJ*	1/2 x 3/4
68H*	5/8 x 1/2
68HJ*	5/8 x 3/4
68JJ	3/4 x 3/4
68J	3/4 x 1/2
68MF	7/8 x 1/2
68MJ	7/8 x 3/4



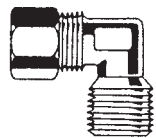
FEMALE CONNECTOR

PART #	TUBE - OD x FPT
66EEE	3/8 x 3/8
66F	1/2 x 3/8



MALE ELBOW

PART #	TUBE - OD x FPT
69C	1/4 x 1/8
69CC	1/4 x 1/4
69E	3/8 x 1/8
69EE	3/8 x 1/4
69EEE	3/8 x 3/8
69EF	3/8 x 1/2
69FF*	1/2 x 1/2
69H	5/8 x 1/2
69JJ	3/4 x 3/4



UNION ELBOW

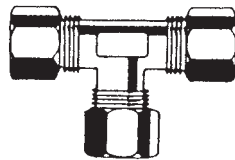
PART #	TUBE - OD
65C	1/4



BRASS COMPRESSION FITTINGS

TEE

PART #	TUBE - OD
64C	1/4
64D	5/16
64E	3/8
64F*	1/2
64H*	5/8
64J	3/4



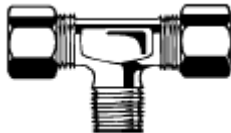
*HEAVY

REDUCING TEE

PART #	TUBE - OD
64CCE	1/4 x 1/4 x 3/8

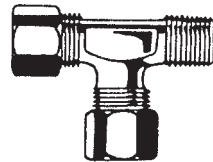
W/MPT

PART #	SIZE
72C	1/4 x 1/4 x 1/8



MALE RUN TEE

PART #	SIZE
71C	1/4 x 1/8 x 1/4



**BRASS COMPRESSION TUBE FITTINGS
POLYETHYLENE TUBING**

PLASTIC SLEEVE

PART #	TUBE - OD
460C	1/4



INSERTS

PART #	TUBE - OD
461C	1/4



BRASS PIPE FITTINGS

SQUARE HEAD PLUG

PART #	MPT
109N	1"



**BUSHING HEX HEAD PLUG
MPT x FPT**

PART #	SIZE
110C	1/4 x 1/8
110E	3/8 x 1/8
110EE	3/8 x 1/4
110FA	1/2 x 1/8
110FC	1/2 x 1/4
110J	3/4 x 1/2
110JC	3/4 x 1/4
110JE	3/4 x 3/8



COUPLING

PART #	SIZE / FPT
L103A	1/8
103C	1/4



CLOSE NIPPLES

PART #	SIZE / MPT
112A	1/8"



BRASS PIPE FITTINGS

PIPE NIPPLE

1/8" DIA.

PART #	LENGTH
117A1-1/2	1-1/2"
117A3	3"



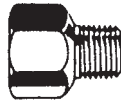
1/4" DIA.

PART #	LENGTH
117C1-1/2	1-1/2"
117C2	2"
117C2-1/2	2-1/2"
117C3	3"

REDUCING ADAPTOR

FPT x MPT

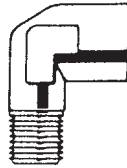
PART #	SIZE
120RFE	1/2 x 3/8



90° STREET ELBOW

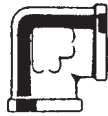
FPT x MPT

PART #	SIZE
116SA-97	1/8"
116SE-30	3/8"



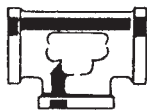
90° ELBOW

PART #	SIZE / FPT
100A	1/8"
100C	1/4"



TEE

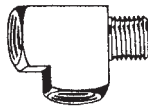
PART #	SIZE / FPT
101CX	1/4"



TEE

FPT x MPT x FPT

PART #	SIZE
127C	1/4"

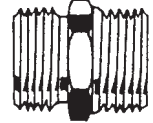


BRASS GARDEN HOSE FITTINGS

CONNECTOR

MALE HOSE x MPT

PART #	SIZE
748JJF	3/4 x 3/4*

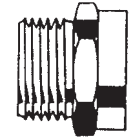


*TAPPED UNDER MPT END.

CONNECTOR

MALE HOSE x FPT

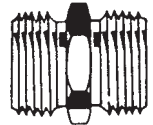
PART #	SIZE
746JJ	3/4"



UNION

MALE HOSE

PART #	SIZE
757JJ	3/4"



CAP

FEMALE HOSE

PART #	SIZE
708J	3/4"



SWIVEL UNION

FEMALE HOSE

PART #	SIZE
703SJJ	3/4"



EVAPORATIVE COOLER DRAIN

W/ LOCKNUT AND GASKET

MALE HOSE x FPT

PART #	SIZE
2CDJF	3/4 x 1/2



WASHER

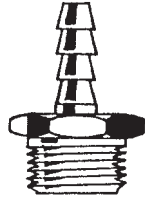
PART #	SIZE
700G	3/4"



HOSE x MULTI BARB BRASS FITTINGS

HOSE BARB x MALE HOSE

PART #	SIZE
TAA2412	3/4 x 3/8barb
619HJ	3/4 x 5/8barb



HOSE BARB x MPT

PART #	HOSE ID	MALE PIPE
220B	3/16	x 1/8
220E	3/8	x 1/8
220EE	3/8	x 1/4
220EEE	3/8	x 3/8



HOSE BARB UNION

PART #	HOSE - ID
222E	3/8"
222F	1/2"



NYLON HOSE BARB FITTINGS

**CONNECTOR
BARB x MPT**

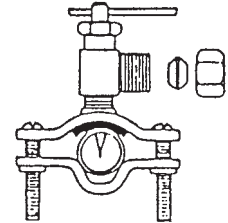
PART #	HOSE ID	MALE PIPE
NY220F	1/2	x 3/8
NY220FF	1/2	x 1/2



**BRASS NEEDLE VALVES FOR
COMPRESSION TUBING**

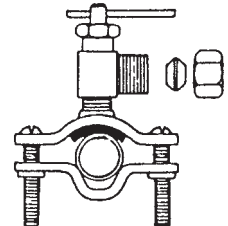
**SELF PIERCING NEEDLE
VALVE AND SADDLE CLAMP**

PART #	TUBE OD	MALE PIPE
123KCSP	1/4	x 1/8



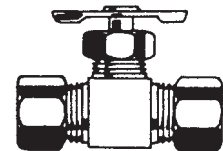
**NEEDLE VALVE AND
SADDLE CLAMP**

PART #	TUBE OD	MALE PIPE
123KC	1/4	x 1/8



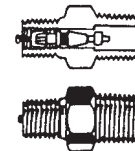
**NEEDLE VALVE
COMPRESSION TUBE BOTH ENDS**

PART #	TUBE - OD
106KC	1/4
106KE	3/8



**TANK & VENT VALVES
HEAVY SPRING CORE**

PART #	TUBE - MPT
1VAH	1/8"





REFRIGERATION ACCESSORIES

TELE-SPOUT® OILER

Squeeze pressure on the container allows the oil to flow in any direction with the flexible spout.



PART #	DESCRIPTION
D01	4 OZ. BOTTLE WITH TELE-SPOUT

POCKET TESTERS

Just the thing to make that fast electrical circuit check.



PART #	DESCRIPTION
TE2	HIGH VOLTAGE, 90-250VAC/DC
TE3	MULTI-VOLTAGE, 110, 220, 277 OR 440VAC/DC

BRAZE-ON SERVICE VALVES Copper-To-Copper M-Series

The M-Series is the first and best braze-on, self-piercing copper saddle valve. It is widely used and easily installed on a charged line. After brazing the saddle portion onto line, the steel pin with valve core penetrates the line and is locked into place simply by tightening the cap. Available in sizes ranging from 1/4" to 1-1/8"



PART # CD5514
copper saddle for 1/4" line

PART # CD5558
copper saddle for 5/8" line

PART # CD5516
copper saddle for 5/16" line

PART # CD5578
copper saddle for 7/8" line

FIN COMBS

Straighten and clean evaporator and condenser fins with these tough, durable nylon combs.



PART #	FINS PER INCH
P8	4, 5, 8 AND 10
P9	9 AND 15
P11	11 AND 13
P12	6, 7, 12 AND 14
P17	16 AND 17
P18	18 AND 20

CHARGEFASTER

Chargefaster is a calibrated restrictor device designed to meter liquid refrigerant into the low side of the system.



PART #	DESCRIPTION
CH300	FOR SYSTEMS 5 TO 10 TONS

ADJUSTABLE LINE TAP VALVES

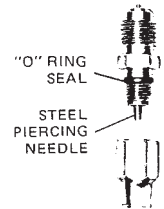
Threading wing cap on the depressor pin pierces the line. When the wing cap is removed, the valve closes, the line is pierced and ready for the connection of the charging hose.



PART #	TUBING SIZE O.D.
A1	1/4", 5/16", 3/8"
A2X	1/2", 5/8"

SOLDER TYPE LINE TAP VALVE

This easy to install "solder on" piercing valve has a unique O-ring seal, which prevents blow-by when piercing the line.



PART #	TUBING SIZE O.D.
B1-6S	3/8"
B1-8S	1/2"

PART #	TUBING SIZE O.D.
B1-10S	5/8"
B1-14S	7/8"



REFRIGERATION ACCESSORIES

QUIK-CAP AND VALVE CORES

Replacement valve cores are available 6 in a plastic tube.
The cap is a QCR4 remover.

PART #	DESCRIPTION
QC4	FOR 1/4" MALE FLARE
AVC6	6 VALVE CORES IN TUBE WITH QC4R CAP



ACCESS VALVES

Access valves are permanent access ports and are supplied with built-in valve cores and brass caps. All access valves have 1/4" male flare connections.

PART #	MODEL	SIZE / DESCRIPTION
AV2456 AV3346	STEP DOWN	1/8" I.D. HOLE, 3/16, 1/4, 5/16" STEPS 3/16" O.D. TUBE OR 1/4" & 3/8" SOLDER FITTING
AV34 AV46	SOLDER	3/16" O.D. OR 1/4" SOLDER FITTING 1/4" O.D. TUBE OR 3/8" SOLDER FITTING
AVU24 AVU45 AVU44	HALF UNION UNION	1/8" MPT OR 1/4" O.D. SOLDER 1/4" MPT OR 5/16" O.D. SOLDER 1/4" MALE FLARE x 1/4" FEMALE FLARE
AVX2 AVX3 AVX4 AVX5 AVX6	EXTENDED END	1/8" O.D. EXTENDED END TUBE 3/16" O.D. EXTENDED END TUBE 1/4" O.D. EXTENDED END TUBE 5/16" O.D. EXTENDED END TUBE 3/8" O.D. EXTENDED END TUBE
AVT4 AVT5 AVT6	SOLDER TEE	1/4" O.D. TUBE OR 3/8" SOLDER FITTING x 1/4" SAE 5/16" O.D. TUBE OR 3/8" SOLDER FITTING X 1/4" SAE 3/8" O.D. TUBE OR 1/2" SOLDER FITTING x 1/4" SAE
AVT34	UNION TEE	1/8" MPT x 1/4" MALE FLARE ON RUN
AVS4	SWIVEL NUT	1/4" SAE ACCESS FLARE WITH SWIVEL NUT
AVS44 AVS64	UNION TEE W/SWIVEL NUT	1/4" MALE x SWIVEL NUT ON RUN x 1/4" MALE BRANCH 1/4" MALE RUN x SWIVEL NUT ON BRANCH
AVW8 AVW10 AVW14	WROUGHT TEES	1/2" O.D. TUBE WITH 1/4" ACCESS ON BRANCH 5/8" O.D. TUBE WITH 1/4" ACCESS ON BRANCH 7/8" O.D. TUBE WITH 1/4" ACCESS ON BRANCH



PRESSURE CONTROLS

High and low pressure controls.

PART #	KLIXON #	OPEN	CLOSE
PSLP10-25	20P003FA025E010E	10 PSI	25 PSI
PSLP25-80	20P003FA080E025E	25 PSI	80 PSI
PSLP40-80	20P003FA080E040E	40 PSI	80 PSI
PSHP350-250	20P003FB350K250K	350 PSI	250 PSI
PSHP400-200	20P003FB400K200K	400 PSI	200 PSI
PSHP400-200	20P003FB450K250K	450 PSI	250 PSI





AIR CONDITIONING ACCESSORIES

BULLET® PIERCING VALVES

Has a metal to metal seat that creates a permanent, leakproof seal that will withstand any pressure and temperature for the life of the unit.

PART #	OD TUBE SIZE
BPV31*	1/4", 5/16", 3/8"
BPV21*	1/2", 5/8"
BPV58	5/8"
BPV34	3/4"
BPV78	7/8"



* Adaptor sleeves furnished for multiple applications.

SOLID STATE POWER PAKS

SUPER BOOST

Increases starting torque up to 500%

PART #	VOLTAGE	INCREASED TORQUE
856	120-230	390 OUNCE INCHES



SUPER BOOST STARTER

Increases starting torque up to 600%

PART #	VOLTAGE	INCREASED TORQUE
SPP7S	120-230	450 OUNCE INCHES



Increases starting torque up to 690%

PART #	VOLTAGE	INCREASED TORQUE
SPP8E	120-230	520 OUNCE INCHES

Electric Element Re-String Kits

Designed to permit field repairs of damaged element sections of electric heaters.

Coil stretches to fit many applications.

Contains 2 ceramic terminal insulator sets, plated bolts, nuts, washers and element.



PART #	DESCRIPTION
DH502	2kw @ 240v
DH507	3kw @ 240v
DH506	4kw @ 240v
DH500	5kw @ 240v

TD60 SERIES DELAY ON MAKE TIMERS

APPLICATION

- . ON. Delay On Make
- . Multi Purpose .Delay on Make. timing.
- . Protects Air-conditioning, Refrigeration and Heat pumps from damage which may be caused by short cycling of compressor.
- . For compressor staging and stagger starting multiple units.
- . Helps to reduce power surges in multiple compressor applications.



PART #	DELAY	CONNECTIONS
TD69	6 Sec - 8 Min	1/4" Stake - Ons

TD73 SERIES DELAY ON BREAK TIMERS

APPLICATION

- . OFF. Delay On Break
- . Multi Purpose .Delay on Make. timing.
- . Protects Air-conditioning, Refrigeration and Heat pumps from damage which may be caused by short cycling of compressor.
- . For compressor staging and stagger starting multiple units.
- . Helps to reduce power surges in multiple compressor applications.



PART #	DELAY	CONNECTIONS
TD73	6 Sec - 5 Min	1/4" Stake - Ons
TD73W	6 Sec - 8 Min	Wire Leads & stake-ons

SIGHT GLASSES

PROVIDES A QUICK AND EASY INDICATION OF REFRIGERANT IN THE TUBE, AS WELL AS THE PRESENCE OF MOISTURE.

MALE/FEMALE FLARE

PART #	SIZE / IN.	LENGTH
SG115R*	3/8 x 3/8	3-1/4"
SG206R	1/2 x 1/2	3-11/16"

MALE/MALE FLARE

PART #	SIZE / IN.	LENGTH
SG110R*	1/4 x 1/4	3-1/8"
SG111R*	3/8 x 3/8	3-3/8"

SOLDER TYPE

PART #	SIZE / IN.	LENGTH
SG118R*	1/4 x 1/4	7-1/4"
SG119R*	3/8 x 3/8	7-3/4"



* UL LISTED.



REFRIGERATION ACCESSORIES

YELLOW JACKET® Charging Systems

YELLOW JACKET SERIES 41-45 MANIFOLDS

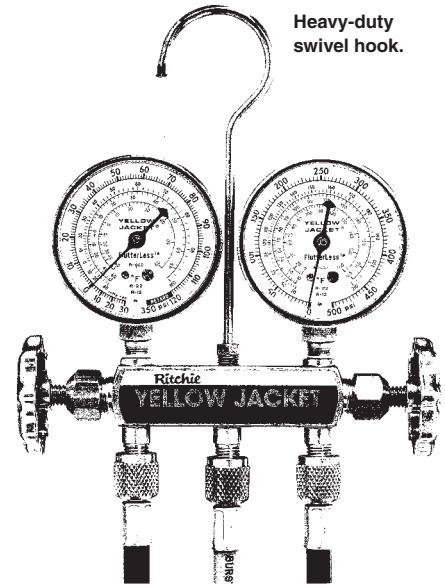
Bold easy-to-read gauges. Large bold numbers and colored scales are easy to read. Removable Lexan® crystals resist breakage. Standard gauge cases are color-coded red and blue. Brass and chrome are also available.

Pretested. Every manifold is individually pressure tested for reliability before shipping.

Limited Lifetime Warranty on manifold with valves. See manifold instructions for details.

Yellow Jacket Hoses. Most manifolds include color-coded Yellow Jacket charging hoses with 500 psi working pressure and all the other performance features you've come to expect. *Plus II* construction, different colors, lengths and fittings are available.

Sliding double "O" ring pistons. Non-rotating design reduces wear. Only 1-1/2 turns give you full flow. Long-life nylon seat is also for vacuum and 34a, R-404A, R-507, R-504A, etc.



SERIES 41-45 MANIFOLDS - Temperature Scales R-12, R-22 and R-502 with red and blue °F* gauges

Description	R-22	Gauge Scales	Part # No Hose	Part# w/ Hoses
	R-410 R-502			
Basic unit: manifold, gauges, hook and anchors		R-12, R-22, R-502	42001	41215

°F (FAHRENHEIT) PRESSURE & COMPOUND GAUGES - PSI



All Yellow Jacket gauges feature bold high-visibility dials with colored temperature scales for easy reading. And with Flutterless™ technology, surge protector minimizes the needle pulsation for improved accuracy.

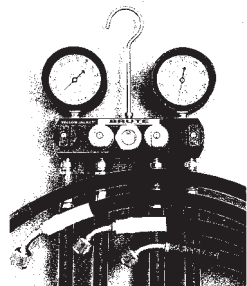
Manifold dials feature R-12, R-502 and R-22 scales. New HFC refrigerant gauges for R-134a, R-507 and R-404A are available. Compound gauges feature over pressure protection to 350 pounds. 1/8" MPT lower mount fitting. Solid brass and chrome-plated brass gauges provide additional features:

- Heavy duty phosphor bronze and stainless steel internal components for precision reading and longer life under severe use.
- Improved pulsation suppression.



UPC#	Fig.	Description
CFC & HCFC R-12, R-502, R-22		
49101	1	Red pressure 0-500° F
49102	2	Blue pressure 30-0-120 °F
49011	1	Brass pressure 0-500 °F
R-410A		
49035	1	0-800 PSI

°F (FAHRENHEIT) BRUTE 4-VALVE SERIES with 1/2" or 3/8" vacuum ports



Large 3-1/8" liquid filled gauges available on some models. Larger, easier to read dials.

Other models available with red or blue gauges or the premium movement brass gauges. Both feature color coded protective boots.

UPC#	Vacuum Port	Hi&Lo Charge Ports	Gauge Type	Gauge Scales	Description
47312	3/8"	1/4"	R&B	R-410A	Manifold Only
46020	3/8"	1/4"	R&B	R-12,R-502,R-22	4V Manifold Only
46212	3/8"	1/4"	R&B	R-12,R-502,R-22	2V Manifold Only

YELLOW JACKET SLING PSYCHROMETER

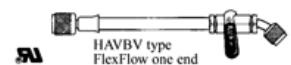


Slim, compact tool easily checks humidity. One piece unit with self-contained housing fits into your pocket.

- Calibrated and easy-to-read.

UPC #	Description
69010	Sling psychrometer
69011	Replacement wicks (5 pack)
69015	Replacement thermometer

9" Flexflow™ and Low Loss Adapter Hose



UPC #	Description
26002	3/8" Heavy Duty



REFRIGERATION ACCESSORIES

YELLOW JACKET® Charging Hoses

Plus II™ 1/4" CHARGING HOSES with double barrier protection

YELLOW JACKET® Plus II Hoses have proven performance benefits of the original line, plus double barrier protection for CFC, HCFC and HFC (R-404A, R-134a, R-507, R-407C, R-410A, etc.).

Nylon permeation barrier meets UL requirements. 1/4" Plus II hose is UL 1963 recognized component for R-12, R-22, R-500, R-502, and R-134a.

Moisture barrier provides improved resistance to moisture migration which contaminates expensive refrigerant.

Other features include 4000 psi minimum burst and 800 psi maximum working pressure for a 5 to 1 safety factor.

Standard 1/4" fitting or 45° with SealRight fitting at one end.

Operating temperature -20° to 180°F.



UPC #	Description
21986	Y/B/R 3-Pak

PLUS II HOSE with SealRight™ low loss anti-blow back fitting

Low loss anti-blowback SealRight fitting immediately traps refrigerant in the hose when disconnected, helping meet non-venting regulations and prevent finger burns. 45° end for ease in tight areas. Gaskets resist deterioration from existing CFC's, plus new HFC refrigerants and oils. Available with SealRight fittings on both ends. New ball valve hose recommended for R-410A.



UPC #	Description
22983	36" Y/B/R 3-Pak
22985	60" Y/B/R 3-Pak
22986	70" Y/B/R 3-Pak

UPC #	Description
22060	1 - 60" Yellow Hose
22260	1 - 60" Blue Hose
22660	1 - 60" Red Hose

MAX-FLOW™ DELUXE OIL PUMP

Improved for added reliability and a more powerful stroke, the Max-Flow deluxe oil pump is a high capacity unit for quick charging. Pumps 3.8 ounces or 112.38 ml per stroke. Other features:

- Remove oil for recovery and conversion.
- Add oil to existing systems.
- Operating unit in reverse with adapter hose accessory removes oil from equipment quickly and efficiently.
- Will pump against 250 psi pressure.



UPC #	Description
77930	Max-Flow Deluxe oil pump
77922	24" suction hose – 1/4" fitting one end only

HEAVY DUTY PLUS II 1/2" and 5/8" COMBINATION CHARGING / HI-VACUUM HOSE

Heavy-use construction with a Plus II barrier that reduces permeation and vacuum loss. Features:

- 500 psi working pressure; 2000 psi burst. 1/2" and 5/8" assemblies.
- Various fittings available on request.

1/4" access valve connection standard on one end CA and DA hoses.

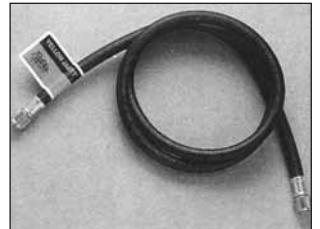


L	"C" 1/2" fl. x 1/2" fl.
60"	#15860 C-60"

HEAVY DUTY PLUS II 3/8" CHARGING / HI-VACUUM HOSE

Pull a vacuum much faster with heavy-duty 3/8" hose than with a 1/4" hose. 3/8" provides freer flow.

- Permeation resistant Plus II barrier.
- Working pressure 500 psi; 2000 psi burst.



L	3/8" fl. sir. x 3/8" fl. str.
72"	#15672 BC-72"

GAS PRESSURE TEST KIT

Easier to use than a manometer, this compact kit helps you accurately set manifold pressure for natural or L.P. gas.



UPC #	Capacity
78060	0- 35" WC

WATER-TYPE MANOMETER

Economical plastic tube manometer helps you set manifold pressure for natural or L.P. gas. Now goes to -2" W.C. for newer systems. Strong magnet on manometer holds it in convenient upright position. Includes tubing with fitting.



UPC #	Description
78075	-2" - 15" Scale



REFRIGERATION ACCESSORIES

YELLOW JACKET® SUPEREVAC™ Systems YELLOW JACKET 4, 6, SUPEREVAC PUMPS

All the new design features build on the performance-proven quality features the industry already expects from the Yellow Jacket line:

- **High efficiency.** CFM rated as “free air displacement.” 15 micron field rating. The lower the micron number - the better the pump.
- **Vacuum indicator gauge** at the pump intake fitting shows evacuation progress down to the green 29" to 30" range, so you'll know when to turn on electronic gauge for more precise readings.
- **Heavy duty high torque motor** assures cold weather starting.
- **Gas ballast** speeds evacuation and keeps oil cleaner.
- **Low operating temperature** to improve efficiency and vacuum.

- **Large oil reservoir** to help reduce operating temperature and better dilute corrosive contaminants.
- **Two stage rotary vane** design (at right) increases efficiency and speeds pump down to 15 microns.



YELLOW JACKET SUPEREVAC™ PUMPS SPECIFICATIONS

DOMESTIC	Model 93600
Free air displacement	7.0 CFM
Number of stages	2 stage rotary vane
Field blankoff	15 microns
Intake	1/4" x 1/4" x 3/8"
Motor	1/2hp - 1725rpm
Internal capacitor thermal overload	Temperature rise 40° C
Voltage (single phase)	115 Volt-60 cycle
Power cord	6' - motor mounted switch
Oil capacity	28 ounces
Dimensions	16.25" L x 6" x 11.5" H
Net weight	30.8 lbs. (14 kg)

MICRO LED UV LEAK DETECTION KITS

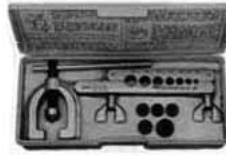
Use these high visibility lamps to spot leaks on all A/C systems. Individual reflectors surround each of five LEDs recessed for protection in the stainless steel head. 69790 features 3 UV and 2 blue bulbs A/C for detection at greater distances. **For greatest contrast with all fluorescent dyes, use P/N 69721 with 5 UV bulbs.**

- 110,000+ hour LEDs.
- Constant ON or momentary ON switch.
- Sealing locks out moisture.
- Long life lithium battery included.
- Aircraft aluminum body.
- Limited lifetime warranty.



#69789

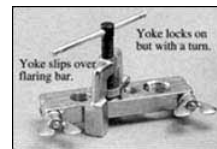
FLARING/CUTTING KITS



Tool designed to flare on the larger sized tubing - up to 1-1/8". Flaring bars are hardened and grip tubing securely. Yoke slips over flaring bar and locks in place. Long handle and precision threaded feed screw ensure easy flaring.

UPC #	Capacity
60240	1/8" - 3/4"

LARGE SIZE 45° FLARING TOOLS 3/4" to 1-1/8" O.D.



Tool designed to flare on the larger sized tubing - up to 1-1/8". Flaring bars are hardened and grip tubing securely. Yoke slips over flaring bar and locks in place. Long handle and precision threaded feed screw ensure easy flaring.

UPC #	Capacity
60290	3/4" - 1-1/8"

PUNCH-TYPE SWAGING TOOL

Durable heat-treated and plated alloy steel tool expands one end of copper tubing for connecting same size tubes



UPC #	Capacity
60460	3/16" - 5/8"
60464	1/4" OD
60465	5/16" OD
60466	3/8" OD
60467	1/2" OD
60469	3/4" OD
60470	7/8" OD

FULL RANGE HEAVY DUTY TUBE BENDERS for 1/4" to 7/8" radius



Make fast bends on almost every size of AC&R copper, brass, aluminum, steel and soft stainless steel tubing to 180°. Line features special hardened wearing surfaces to help maintain accuracy. 60390 is a compact three-in-one bender for 1/4", 5/16" and 3/8" O.D. tubing. Calibrated markings for bends up to 180° help you duplicate angles.

UPC #	Description
60390	3 in1 bender



REFRIGERATION RECOVERY

REFRIGERANT RECOVERY SYSTEM #95760

Yellow Jacket System R 60a is rated as fast or faster than all competitive units in the ARI directory or UL listings for most CFC, HCFC, and HFC refrigerants including R-410A. Features include all of the following:

- Single valve control for easy changeover from liquid to vapor to purge (patent pending)
- Constant Pressure Regulator (CPR) valve regulates refrigerant to the compressor. Eliminates the need for the technician to throttle the suction valve
- Advanced 1/2 hp, 3425 rpm oil-less compressor with precision valves manufactured in an ISO-9001 facility
- Recovers refrigerant and shuts off when unit reaches 13" of vacuum. Unit will automatically restart if system pressure rises
- Indicator signals "recovery complete"
- Quiet running with components nested to reduce vibration and noise. Oil-less compressor is inherently quiet
- Controls and gauges inset for protection and angled for easy access and viewing
- Senses back pressure from tank and shuts off automatically at 517 psi for safety
- Reusable mesh particulate filter inserts into suction port for protection. Simple cleaning eliminates replacement due to clogging
- "On-the-fly" purge with simple turn of a knob to remove residual refrigerant and help prevent cross-contamination
- High efficiency fan keeps air moving across condenser for cool running even in hot weather
- High strength HDPE case for lightweight and rugged use. Rounded corners help protect from nicks and scrapes
- Single high pressure safety switch
- Includes three-year compressor warranty
- Made in the USA



High efficiency fan keeps air moving across an oversized condenser for cool running even in high temperature operating conditions.

Specifications - RecoverXLT	
Capabilities	Vapor, liquid, push/pull
Compressor	1/2 hp, oil-less
Weight	32.6 lbs. (14.78 kg)
Size	19.3 x 12.4 x 12.5" (490 x 315 x 317 mm)
Refrigerants	12, 22, 134a, 407C, 410A, 500, 502, HP, MP, Blends
Electrical	115/60 Hz or 230/50 Hz
Overfill shut-off	Standard on 95762
Warranty	3 years compressor; 1 year parts and labor



The weight of all units balance away from the side of your leg for easier carrying on a long walk to the back of a house or a long climb to a roof top.



REFRIGERATION PRODUCTS AND ACCESSORIES

SUCTION-LINE FILTER DRIERS

PART#	FITTING TYPE AND SIZE	CU. IN. DESICCANT	FILTER AREA SQ. IN.	O.A. LENGTH	SHELL DIA.
SLD8-3SV	3/8" SWEAT	8	17.25	4.31"	3"
SLD8-4SV	1/2" SWEAT	8	17.25	4.44"	3"
SSD5SC	5/8" SWEAT	8	17.27	4.69"	3"
SSD6SC	3/4" SWEAT	13-1/2	26	5-3/16"	4"
SSD7SC	7/8" SWEAT	13-1/2	26	5-13/16"	4"



REPLACEABLE FILTER CORE DRIER

PART #	CORES	FILTER AREA	REF. FLOW CAP. IN TONS @ 2psi				FITTING CONNECTIONS INCHES	REFRIGERANT 12 & 502 PERM. INST.	REFRIGERANT 22 PERM. INST.
			12	22	500	502			
P487	1		22	29	25	18-1/2	7/8	6	10
P489	1	66	29	38	34	28	1-1/8	8	15
P967	2		38	50	43	33	7/8	6	10
P969	2	132	45	60	52	40	1-1/8	10	20
P9611	2		54	72	61	49	1-3/8	10	20
P1449	3	198	55	72	63	49	1-1/8	15	20
P14411	3		64	85	74	56	1-3/8	20	25



REPLACEABLE CORE DRIER KITS

(SPRING RETAINERS, GASKET, RODS & SCREEN ASSY.)

PART #	SHELL #'S
K4607-01	P485-P4813
K4607-02	P967-P9613
K4067-03	P1449-P14411
K4067-04	P19211-P19213



SIGHT-GLASS MOISTURE INDICATOR

PART#	FITTING SIZE	LENGTH / IN.
LDE-2S	1/4" SWEAT	3.05
PSG2S	1/4" SWEAT	4.88
LDE3	3/8" FLARE	3.05
LDE3S	3/8" SWEAT	4.88
PSG4MF	1/2" M/F FLARE	3.39
LDE4S	1/2" SWEAT	4.88
PSG5S	5/8" SWEAT	3.69
LDE5S	5/8" SWEAT	4.88
LDE7S	7/8" SWEAT	6.25
PSG9S	1-1/8" SWEAT	6.25
PSG10T	REPLACEMENT INDICATOR ELEMENT & "O" RING	





REFRIGERATION PRODUCTS AND ACCESSORIES

LIQUID LINE FILTER DRYERS

• SWEAT



PART #	PIPE OD	LENGTH/ INCHES	DIAMETER/ INCHES
AH052S	1/4"	3-13/16	1-11/16
AH053S	3/8"	3-5/8	2-1/2
AH083S	3/8"	4-1/2	2-1/2
AH084S	1/2"	4-3/8	2-1/2
AH163S	3/8"	5-3/16	2-1/2
AH164S	1/2"	5-1/16	2-1/2
AH165S	5/8"	5-5/16	2-1/2
AH304S	1/2"	8	3
AH305S	5/8"	8	3
AH415S	5/8"	8	3-1/2
AH417S	7/8"	8	3-1/2
AH757S	7/8"	13-3/4	3-1/2
AH759S	1-1/8"	13-3/4	3-1/2

• FLARE

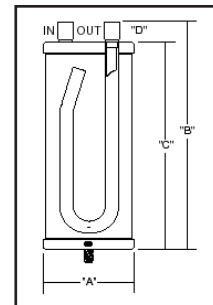


PART #	SAE FLARE	LENGTH/ INCHES	DIAMETER/ INCHES
AH032	1/4	4-1/8	1-11/16
AH052	1/4	4-3/4	2-1/2
AH053	3/8	5-3/16	2-1/2
AH083	3/8	6-1/16	2-1/2
AH162	1/4	6-15/16	2-1/2
AH163	3/8	6-3/4	2-1/2
AH164	1/2	7	2-1/2
AH305	5/8	10-3/16	3

SUCTION LINE ACCUMULATOR*

FOR HEAT PUMP APPLICATIONS

Part #	Dimensions				Fittings
	A	B	C	D	Inlet/Outlet
VA-56-7SRD	5"	13"	3"	1"	7/8"
VA-59-9SRD	5"	14"	3"	1"	1-1/8"



CAPACITIES AND SELECTION RECOMMENDATIONS

Model Number	Filter Area Sq. In.	Capacities (Ratings at ARI Standard Conditions)						Selection Recommendation (Nominal Ratings-tons)																											
		Water Capacity in drops						Refrigerant flow capacity @ 2psi pressure drop			Refrigeration Commercial Low Temp. Equipment			Air Conditioning																					
		R-12 (15ppm)		R-22 (60 ppm)		R-502 (30 ppm)		R-12	R-22	R-502	R-12	R-22	R-502	OEM Self-contained			Field Replacement or Field Built-up																		
032	10	33.8	30.6	31.0	28.8	29.7	27.0	1.8	2.4	1.6	1/4	1/4	1/4	3/4	1	3/4	1/2	3/4	1/2																
032S								2.0	2.6	1.7																									
052	17	71.5	64.7	65.6	60.8	62.7	57.0	2.0	2.6	1.7	1/3	1/2	1/3	1	1-1/2	1	3/4	1	3/4																
052S								2.1	2.8	1.8																									
053								4.2	5.5	3.7																									
053S								5.0	6.6	4.4																									
082								2.0	2.6	1.8																									
082S	27	116.5	105.5	107.0	99.1	102.0	93.0	2.2	2.9	1.9	1	2	1	3	5	3	2	3	2																
083								4.7	6.2	4.1																									
083S								5.3	6.9	4.7																									
084								7.5	9.8	6.6																									
084S								7.6	10.0	6.7																									
162								2.3	3.1	2.0																									
162S	34	206.0	187.0	190.0	176.0	181.0	165.0	2.5	3.4	2.2	2	3	2	4	5	4	3	4	3																
163								5.6	7.5	4.9																									
163S								6.2	8.3	5.4																									
164								9.5	12.7	7.8																									
164S								10.3	13.7	8.9																									
165								13.3	17.7	11.6																									
165S								13.7	18.3	11.9																									
303								61	416.0	377.0										383.0	355.0	365.0	333.0	5.7	7.7	5.0	3	4	2	4	5	4	3	5	3
303S	6.5	8.7	5.7																																
304	11.3	15.1	9.8																																
304S	13.1	17.5	11.4																																
305	15.5	20.7	13.5																																
305S	17.1	22.8	14.9																																
307S	21.2	28.3	18.5																																
413	60	611.0	554.0	562.0	521.0	536.0	489.0				5.7	7.7	5.0	4	5	5	4	5	7-1/2					5	7-1/2	5									
414											11.4	15.3	9.9																						
414S											13.1	17.5	11.4																						
415								15.5	20.7	13.5																									
415S								17.1	22.9	14.9																									
417S								24.3	32.4	21.1																									
756S								131	1072.0	972.0	986.0	915.0	940.0							858.0	20.7	27.6	18.0				12-1/2	20	1-1/2	15	25	12-1/2	12-1/2	20	12-1/2
757S	25.6	34.2	22.3																																
759S	28.3	37.7	24.6																																



REFRIGERATION PRODUCTS AND ACCESSORIES

GENERAL PURPOSE SOLENOID VALVES

PILOT OPERATED SOLENOID VALVES - TYPE I

COMMON FLUIDS 0°F TO 225°F

APPLICATIONS:

These general service two way valves are designed for normally closed operation with a wide range of non-corrosive fluids and gases.

GENERAL SPECIFICATIONS:

- FORGED BRASS BODY
- MAX MOPD 150psi
- MIN MOPD 1psi
- SWP 200psig

PART #	PIPE SIZE NPT	PORT SIZE INCHES	FLOW COEFFICIENT Cv
GP200	1/4"	5/16	.98
GP300	3/8"	1/2	3.35
GP400	1/2"	1/2	3.35
GP600	3/4"	3/4	7.40
GP10A	1"	1	12.20

*COILS SOLD SEPARATELY

PILOT OPERATED SOLENOID VALVES - TYPE II

COMMON FLUIDS -20°F - 240°F

APPLICATIONS:

These two-way normally closed valves are for common fluid applications including water (to 180°F), light oils, fuel oils and other non-corrosive liquids.

GENERAL SPECIFICATIONS:

- CAST BRONZE BODY
- TEFLON DIAPHRAGM
- MAX MOPD 150psi
- MIN MOPD 2psi
- SWP 200psig

PART #	PIPE SIZE NPT	PORT SIZE INCHES	FLOW COEFFICIENT Cv
GP20X	2"	2	56.00

*COILS SOLD SEPARATELY



PILOT OPERATED SOLENOID VALVES - TYPE III

APPLICATIONS:

These two-way normally closed valves are for water (over 180°F) and steam service at temperatures to 240°F and 1 to 10 psi steam.

GENERAL SPECIFICATIONS:

- FORGED BRASS BODY
- TEFLON DIAPHRAGM
- MAX MOPD 150
- MIN MOPD 1
- SWP 200 psig

PART #	PIPE SIZE NPT	PORT SIZE INCHES	FLOW COEFFICIENT Cv
GP207	1/4"	5/16	.98
GP307	1/2"	1/2	3.35
GP407	1/2"	1/2	3.35
GP607	3/4"	3/4	7.40
GP1007	1"	1	12.20

*COILS SOLD SEPARATELY

COILS

MODEL # / VOLTAGE
G23MM110V
G23MM208/230V
G23MM24V



CONDENSATE PUMPS



CONDENSATE PUMP - LCU15 Series

The LCU series is one of Liberty Pumps units most reliable units. Applications include High Efficiency furnaces and any other application that requires condensate removal. Units include a high impact polystyrene tank with a capacity of 2 U.S. quarts. **3 Year Warranty.**



Model Number	H	W	L	Outlet	Volts	Amps	Hz	H.P.	Gallons per hour @ 60 Hz & Rated Voltage						Safety Switch	Check Valve	Cord w/plug	Shut Off (ft)	
									1'	5'	10'	15'	20'	30'					40'
LCU15S	6.5"	5"	11-1/8"	3/8" O.D.	115	1.0	60	1/50	85	70	50	—	—	—	—	Y	Y	Y	15'

MEDIUM CONDENSATE PUMP - CB15 Series

These are Beckett's most popular and dependable units. They can handle high acidity condensation produced by High Efficiency furnaces. Units include a high impact polystyrene tank with a capacity of 1.7 U.S. quarts, a flame retardant plastic cover, 3/8" O.D. check valve, stainless steel shaft and a 6 ft power cord with a 3 prong plug. Mounting slots are provided on each end of the tank cover. 20 ft of clear vinyl tubing.



Model Number	H	W	L	Outlet	Volts	Amps	Watts	H.P.	Gallons per hour @ 60 Hz & Rated Voltage						Safety Switch	Check Valve	Cord w/plug	Shut Off (ft)	
									1'	5'	10'	15'	20'	30'					40'
CB151UL	6.25"	5"	11-1/8"	3/8" O.D.	115	1.1	60	1/50	85	70	50	—	—	—	—	Y	Y	Y	15'
CB201TUL*	6.25"	5"	11-1/8"	3/8" O.D.	115	2.2	85	1/30	105	95	73	36	—	—	—	Y	Y	Y	20'

*Includes tubing

COMPACT MODEL LOW PRO® CONDENSATE PUMP CL20 Series

This High Efficiency furnace model is compact and has a Low Profile so that they can be used in applications where space is limited. This unit is capable of handling high acidity condensation. The shut off height for the CL20 is 20 ft. Model includes a built in safety switch, 3/8" O.D. check valve, stainless steel shaft, 6 ft power cord with a 3 prong plug, high impact polystyrene tank and a flame retardant plastic cover.



Model Number	H	W	L	Outlet	Volts	Amps	Watts	H.P.	Gallons per hour @ 60 Hz & Rated Voltage						Safety Switch	Check Valve	Cord w/plug	Shut Off (ft)	
									1'	5'	10'	15'	20'	30'					40'
CL201UL	4-3/4"	5"	11-1/8"	3/8" Barb	115	1.95	90	1/30	115	92	62	33	—	—	—	Y	Y	Y	20'

LARGE CONDENSATE PUMP - CB22 Series

This large condensate pump is capable of handling high acidity condensation. The shut off height for this model is 22 ft. Model includes a high impact, flame retardant ABS plastic tank with a capacity of one U.S. gallon, a flame retardant plastic motor cover, 3/8" O.D. check valve and stainless steel shaft.



Model Number	H	W	L	Outlet	Volts	Amps	Watts	H.P.	Gallons per hour @ 60 Hz & Rated Voltage						Safety Switch	Check Valve	Cord w/plug	Shut Off (ft)	
									1'	5'	10'	15'	20'	30'					40'
CB221UL	9-1/4"	6"	12"	3/8" O.D.	115	1.5	120	1/25	108	90	70	45	19	—	—	Y	Y	Y	22'
CB222UL	9-1/4"	6"	12"	3/8" O.D.	230	1.0	120	1/25	108	90	70	45	19	—	—	Y	Y	Y	22'

INDUSTRIAL CONDENSATE PUMP - CB50 Series

These are Beckett's Industrial models for your heavy duty pumping applications. They both feature a built in safety switch, a pre-wired terminal block, non-corrosive brass wetted parts and stainless steel shaft. CU55 has a 1/2" O.D. check valve. Model has a high quality painted galvanized steel cover and a high impact polystyrene tank with a capacity of 1 U.S. gallon.



Model Number	H	W	L	Outlet	Volts	Amps	Watts	H.P.	Gallons per hour @ 60 Hz & Rated Voltage						Safety Switch	Check Valve	Cord w/plug	Shut Off (ft)	
									1'	5'	10'	15'	20'	30'					40'
CB501UL	10-1/8"	6"	12"	1/2" O.D.	115	4.0	360	1/5	476	441	396	351	306	216	126	Y	Y		48'



Vari-Angle Thermometers

Weiss 9" Scale Vari-angle® Thermometers are the industry standard for HVAC applications. Union connection stem is offered for pipeline applications, for chilled and hot water installations with a 3-1/2" stem. Perforated 6" stem with a mounting flange is for air duct use.



UNION CONN. STEM		
CAT. NO.	RANGE	SIZE
9VS-110*	40-0-110F&C	9"
7VS-110*	40-0-110F&C	7"
7VS-240*	30-240F&C	7"

*E35-75BS well required.

Tri-O-meters

The Weiss Tri-O-meter is designed for use on all types of hot water heating systems. One instrument reads the water pressure, water temperature and system head in feet of H₂O. Available in 2-1/2" dial with 1/4" NPT rear connection and 3-1/2" dial with 1/2" NPT lower or rear connected.



Series	C	0-55 psi & Ft of H ₂ O	70-250F
	H	0-200 psi	70-320F
CAT. NO.	DESCRIPTION		
CTP25R	1/4" NPT rear		
CTP25RX	1/2" NPT rear w/1-1/4" Ext.		
CPT40RSX	1/2" NPT rear		
CTP40L	1/2" NPT lower		
HTP40L	1/2" NPT lower		

6" Glass Thermometers

The Weiss 6" Navy Class Thermometer is compactly designed, ruggedly constructed and has excellent readability. The red-reading mercury-in-glass tube maintains accuracy despite vibrations and shock.



UNION CONN. STEM		
CAT. NO.	RANGE	SIZE
5AS2	40-240F	6"
5SS2*	40-240F	6"

*Straight shank

5AS2

Hot Water Thermometers

The Weiss 6" Hot Water Thermometer is our most economical offering in industrial glass thermometers. The unit features components of non-corrosive materials and its compact design and excellent readability makes the HW Series ideal for a variety of general purpose applications. Typical applications include small pipe lines, residential and commercial boilers, solar heating systems.



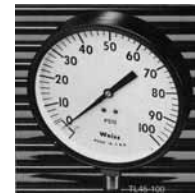
UNION CONN. STEM		
CAT. NO.	RANGE	SIZE
HW5S2	40-260F	6"
HW5A2*	40-260F	6"

*Angle shank

HW5S2

Trade Line Pressure Gauges

Weiss TL Gauges are intended for general service conditions, for pressure or vacuum on air, oil, water, gas or other mediums that do not attack brass. TL Gauges are furnished in drawn steel cases, finished in black. 2" dial versions are available with 1/4" or 1/8" NPT connections. All other dial sizes are 1/4" NPT. All gauges conform with ANSI B40.1 accuracy Grade B - 2% mid scale.



2-1/2" DIAL 1/4" NPT LOWER CONN.		3-1/2" DIAL 1/4" NPT LOWER CONN.		4-1/2" DIAL 1/4" NPT LOWER CONN.	
CAT. NO.	RANGE	CAT. NO.	RANGE	CAT. NO.	RANGE
TL25-015	0-15 PSI	TL35-015	0-15 PSI	TL45-015	0-15PSI
TL25-030	0-30 PSI	TL35-030	0-30 PSI	TL45-030	0-30 PSI
TL25-060	0-60 PSI	TL350-30-CBM	0-30 Ctr Btm Mt	TL45-060	0-60 PSI
TL25-100	0-100 PSI	TL35-060	0-60 PSI	TL45-100	0-100 PSI
TL25-100MR	LAZY HAND	TL35-100	0-100 PSI	TL45-160	0-160 PSI
TL25-160	0-160 PSI	TL35-160	0-160 PSI	TL45-300	0-300 PSI
TL25-200	0-200 PSI	TL35-300	0-300 PSI	TL45-VAC	-30-0 VAC
TL25-200MR	LAZY HAND	TL35VP-30-0-30	-30-0-30 PSI	TL45VP-30-0-30	-30-0-30 PSI
TL25-300	0-300 PSI				
TL25-VAC	-30-0 VAC				
TL25P30-CBM	0-30 PSI				



REFRIGERANT

R-410A

R-410A is an azeotropic mixture of HFC-32 and HFC-125, with near-zero glide allowing for both predictable performance and easy handling and recycling. Millions of R-410A air conditioners have been sold around the world, and over 25 equipment manufacturers now offer an R-410A option in their product line.



R421A

R421A is a unique non-ozone depleting green long term replacement for R22 refrigerant. R421A does not contain hydrocarbons such as Butane or Isobutane. Replaces R22 with no change of oil and is usable in R22 compressors. R421 is also comparable to R22's performance temperature. R421A is a two component blend packaged with a proprietary lubricant which should be transferred from the cylinder in the liquid phase,



R22

Genetron 22 is a single-component HCFC refrigerant manufactured to meet the tightest of manufacturer's specification, and can be used to service any equipment designed to use R-22. R-22 is popular in residential, commercial and industrial applications.



Rx11 Flush

Rx11-flush is a unique solvent engineered specifically for flushing refrigeration and air conditioning systems. Based on patented HFC solvents developed by DuPont®, Rx11-flush is ozone-safe, non-toxic, and non-flammable. Used exactly like the old R-11 flushing process, its patented HFC based solvent formulation is powerful enough to flush away sludge, carbon residues, oils, acids, water and other particulate. It enhances system's service life and avoids the need for time-consuming repeat visits. Rx11-flush is ideal for system flushing after burnouts, during retrofits and for flushing line sets for R-410A conversions.



#430009

Rx11-flush has been the industry's standard for over a decade and contractors agree, it's the best flush for R-410A retrofits and after compressor burnouts. Over one million tons of system capacity has been successfully flushed with Rx11-flush solidifying its proven track record.



#430099
Injection Valve