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# MANUFACTURERS INDEX, SECTION 2

A-1 COMPONENTS .....	2-55 – 2-57
BECKETT PUMPS .....	2-65
BRASS FITTINGS .....	2-49 – 2-54
FRASER-JOHNSTON .....	2-1 – 2-29
GENETRON REFRIGERANTS .....	2-67
LINE SETS .....	2-48
MUELLER BRASS .....	2-40 – 2-48
NU-CALGON .....	2-67
PANASONIC .....	2-30 – 2-31
PARKER .....	2-64
PREMAIRE PTAC UNITS .....	2-32 – 2-33
RITCHIE .....	2-58 – 2-61
UNICO .....	2-34 – 2-39
VIRGINIA CHEMICAL .....	2-62 – 2-63
WEISS INSTRUMENTS .....	2-66

# CONDENSERS



## R-410A SPLIT-SYSTEM AIR CONDITIONERS 18 SEER - Two Stage 2 THRU 5 TONS



### DESCRIPTION

The 18 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.

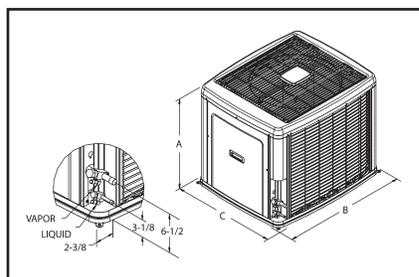
### WARRANTY

Standard 5-year limited parts warranty.  
10-year limited compressor warranty.  
Extended 10-year limited parts warranty when product is registered online within 90 days of purchase.

### FEATURES

- **Superior Coil Protection** – A PVC coated steel coil guard completely protects coil from debris.
- **Isolated Compressor Compartment** – A molded composite bulkhead isolates the compressor from the rest of the unit reducing sound.
- **Protected Compressors** – Each compressor is protected against abnormal pressures by an internal pressure relief valve and factory installed high and low pressure controls.
- **Durable Finish** – Automotive quality finish provides the ultimate protection from harmful U.V.

- **Low Operating Sound Levels** – A fan design boasting technology adapted from aeronautic and defense engineering provides for whisper quiet operation.
- **Filter-Drier** – A factory installed, solid core liquid line filterdrier filters harmful debris and moisture from the system.
- **Composite Base** – Strong and durable composite base pan resists rust and corrosion while it helps reduce vibrations and noise.
- **Silent drive system** – Features combination of swept-wing fan, composite base pan, isolated compressor compartment and two-stage compressor to reduce overall sound to a mere whisper.
- **Low RPM fan motor** – Helps to reduce airflow.
- **Agency Listed** – U.L. and C.U.L. listed – approved for outdoor application. The unit is certified in accordance with the Unitary Small Equipment certification program, which is based on ARI Standard 210/240.



Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
24	39-1/2	42	34	3/8"	3/4"
36	39-1/2	42	34		3/4"
48	39-1/2	42	34		7/8"
60	39-1/2	42	34		

### PHYSICAL AND ELECTRICAL DATA

MODEL	AL8B024F1	AL8B036F1	AL8B048F1	AL8B060F1
Unit Supply Voltage	208-230V, 1φ, 60Hz			
Normal Voltage Range	187 to 252			
Minimum Circuit Ampacity	15.6	23.6	29.2	34.8
Max. Overcurrent Device Amps	25	40	50	60
Min. Overcurrent Device Amps	20	25	30	35
Multi-stage Compressor	Yes	Yes	Yes	Yes
Compressor Type	Scroll	Scroll	Scroll	Scroll
Compressor	Rated Load	10.3	16.7	21.2
	Amps	52	82	96
Crankcase Heater	No	No	No	No
Fan Motor Amps	Rated Load	2.8	2.8	2.8
Fan Diameter Inches	24	24	24	24
Fan Motor	Rated HP	1/3	1/3	1/3
	Nominal RPM	685	685	685
	Nominal CFM	2900	3200	3100
Coil	Face Area Sq. Ft.	23.58	23.58	23.58
	Rows Deep	2	2	2
	Fin / Inches	16	16	14
Liquid Line Set OD (Field Installed)	3/8	3/8	3/8	3/8
Vapor Line Set OD (Field Installed)	3/4	3/4	7/8	7/8
Unit Charge (Lbs. - Oz.) 15 - 1	13 - 7	12 - 9	13 - 5	
Charge Per Foot, Oz.	0.62	0.62	0.67	0.67
Operating Weight Lbs.	305	305	310	330

**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**

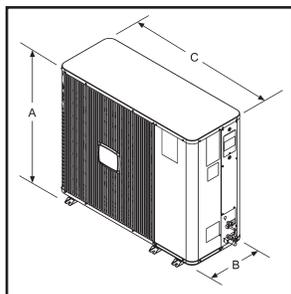
Standard 5-year limited parts warranty.  
Standard 10-year limited compressor warranty

**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	14-5/8	37	3/8"	3/4"
24	25-1/8	14-5/8	37		
30	37-1/8	17-1/8	44-5/8		
36	37-1/8	17-1/8	44-5/8		
48	43-1/8	17-1/8	44-5/8		7/8"
60	43-1/8	17-1/8	44-5/8		

**PHYSICAL AND ELECTRICAL DATA**

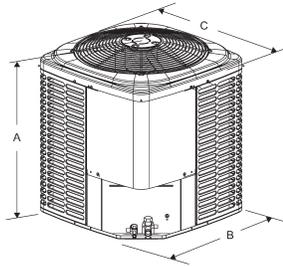
MODEL	TCHD18 S41S3	TCHD24 S41S3	TCHD30 S41S3	TCHD36 S41S3	TCHD48 S41S3	TCHD60 S41S3	
Unit Supply Voltage	208-230V, 1φ 60Hz						
Normal Voltage Range	187 to 252						
Minimum Circuit Ampacity	11.8	17.4	17.5	23.1	27.1	34.3	
Max. Overcurrent Device Amps	20	30	30	40	45	60	
Min. Overcurrent Device Amps	15	20	20	25	30	35	
Multi-Stage Compressor	No	No	No	No	No	No	
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	
Compressor Amps	Rated Load	9.0	13.5	12.8	17.3	20.5	26.3
	Locked Rotor	48.0	58.3	64.0	96.7	115.0	134.0
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	1/4
	Rated Load Amps	0.60	0.60	1.45	1.45	1.45	1.45
	Nominal RPM	840	840	850	850	850	850
Coil	Face Area Sq. Ft.	5.76	5.76	11.96	11.96	13.96	13.96
	Rows Deep	1	1	1	1	1	1
	Fins / Inches	23	23	23	23	23	23
Refrigerant Lines	Max. Length	200	200	200	200	200	200
	Max. Lift	65	65	65	65	65	65
	Max. Drop	150	150	150	150	150	150
	Liquid Line Set OD (Field Installed)	3 / 8	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	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	

# CONDENSERS



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

**MODELS: TCJF18 THRU 60**



**PHYSICAL AND ELECTRICAL DATA**

**DESCRIPTION**  
The 14.5 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**  
Extended 10-Years limited parts warranty. Standard 10-Years limited compressor warranty.

- 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 and secondary polymer mesh.
  - **Protected Compressor** - Compressors are

protected internally by a high pressure relief valve and a temperature sensor, and externally 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 next generation refrigerant R-410A delivers environmentally friendly performance with zero ozone depletion.
- **Durable Finish** - The cabinet is made of G90-equivalent prepainted steel, with special primer formulas and matte titanium texture to insure less fading when exposed to sunlight. The coated steel wire fan guard and pre-treated, galvanized steel chassis components resist corrosion and rust creep.
- **Quiet Operation** - The compressor sound blanket and the swept wing fan blade keep sound to a minimum. 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.

Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
18	28-1/4	29-1/2	29-1/2	3/8	3/4
24	28-1/4	29-1/2	29-1/2		
30	36-1/4	29-1/2	29-1/2		
36	36-1/4	29-1/2	29-1/2		
42	34-1/4	34	34		7/8
48	36-1/4	34	34		
60	40-1/4	34	34		

MODEL	TCJF18 S41S3	TCJF24 S41S3	TCJF30 S41S3	TCJF36 S41S3	TCJF42 S41S3	TCJF48 S41S4(E)	TCJF60 S41S4(E)
Unit Supply Voltage	208-230V, 1φ, 60Hz						
Normal Voltage Range	187 to 252						
Minimum Circuit Ampacity	12.0	16.8	18.4	19.1	23.9	26.3	32.7
Max. Overcurrent Device Amps	20	25	30	30	40	45	50
Min. Overcurrent Device Amps	15	20	20	20	25	30	35
Compressor Type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Compressor Amps	Rated Load	9.0	12.8	14.1	14.1	17.9	25.0
	Locked Rotor	46	58	73	77	112	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	No	No	No	No	No	No	No
Fan Motor Amps	Rated Load	0.8	0.8	0.8	1.5	1.5	1.5
	Fan Diameter Inches	22	22	22	22	24	24
Fan Motor	Rated HP	1/8	1/8	1/8	1/4	1/4	1/4
	Nominal RPM	1075	1075	1075	850	850	850
	Nominal CFM	2750	2750	2800	3200	3600	3700
Coil	Face Area Sq. Ft.	13.1	13.1	17.4	17.4	20.0	24.0
	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)	3/4	3/4	3/4	3/4	7/8	7/8	7/8
Unit Charge (Lbs. - Oz.)	3 - 10	3 - 2	3 - 7	3 - 10	4 - 4	5 - 1	5 - 4
Charge Per Foot, Oz.	0.62	0.62	0.62	0.62	0.67	0.67	0.67
Operating Weight Lbs.	125	128	130	145	172	208	231

**For the most up to date information visit [www.wlengler.com](http://www.wlengler.com)**

# FRASER-JOHNSTON

Heating ■ Air Conditioning

**LX SERIES**

**13 SEER – R-410A**

**1.5 THRU 5 NOMINAL TONS**

**MODELS: TCJD18 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**

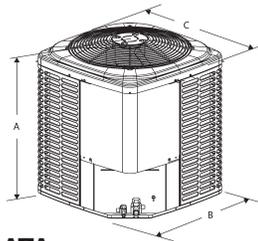
Standard 5-Years limited parts warranty.  
Standard 10-Years limited compressor warranty.  
Extended 10-Years limited parts warranty when product is registered online within 90 days of purchase for replacement.

**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 and secondary polymer mesh.
- **Protected Compressor** - Compressors are protected internally by a high pressure relief

valve and a temperature sensor, and externally by the system high pressure switch. A factory installed liquid line filter-drier further protects the compressor against moisture and debris.

- **Durable Finish** - The cabinet is made of G90-equivalent prepainted steel, with special primer formulas and matte titanium texture to insure less fading when exposed to sunlight. The coated steel wire fan guard and pre-treated, galvanized steel chassis components resist corrosion and rust creep.
- **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 top panel effectively isolates any motor sound. Isolator mounted compressor and the condenser coil muffle the normal fan motor and compressor operating sounds.



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

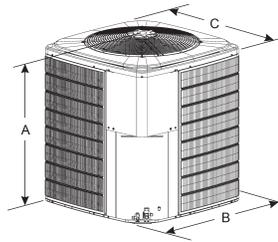
**PHYSICAL AND ELECTRICAL DATA**

MODEL	TCJD18 S41S3	TCJD24 S41S3	TCJD30 4S21	TCJD36 S41S3	TCJD42 S41S4	TCJD48 S41S3	TCJD60 S41S4
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 Type	Rotary	Recip	Recip	Recip	Recip	Recip	Scroll
Compressor Amps	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	Yes	Yes	Yes	Yes	Yes	Yes	No
Fan Motor Amps   Rated Load	0.5	0.8	1.4	1.5	1.5	1.5	1.5
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
	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



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

**MODELS:  
RAC13J18 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	7/8"	
48	30-1/4	29-1/2	29-1/2		
60	32-1/4	34	34		

**PHYSICAL AND ELECTRICAL DATA**

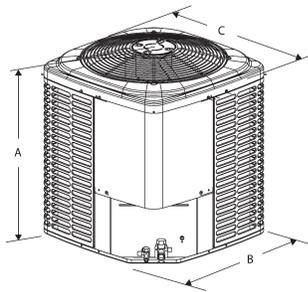
MODEL	RAC13J18 4S21	RAC13J24 4S21	RAC13J30 4S21	RAC13J36 4S21	RAC13J42 4S21	RAC13J48 4S21	RAC13J60 4S21
Unit Supply Voltage	208-230V, 1ϕ, 60Hz						
Normal Voltage Range	187 to 252						
Minimum Circuit Ampacity	10.0	12.4	14.7	17.9	21.5	21.1	34.5
Max. Overcurrent Device Amps	15	20	25	30	35	35	60
Min. 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 <sup>4</sup>	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

# FRASER-JOHNSTON

Heating ■ Air Conditioning

## AIR CONDITIONERS DRY CHARGE ONLY

### 13 SEER – R-22 MODELS: GCGD1 1.5 THRU 5 TONS



**DESCRIPTION**

The 13 SEER Series unit is the outdoor part of a versatile climate system. It is designed with an existing, 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**

5-years limited parts warranty.  
5-years limited compressor warranty.

**FEATURES**

- **Quality Condenser Coils** – The coil is constructed of aluminum microchannel tubing and enhanced aluminum fins for increased efficiency and corrosion protection.
- **Protected Compressor** – The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of high pressure relief valve and a temperature sensor which protects the compressor if undesirable operating conditions occur. A liquid line filter-drier further protects the compressor.
- **Durable Finish** – The cabinet is made of pre-painted steel. The pre-treated galvanized steel provides a better paint-to-steel bond, which resists corrosion and rust creep. Special primer formulas and matted-textured finish insure less fading when exposed to sunlight.

- **Lower Installed Cost** – Installation time and costs are reduced by easy power and control wiring connections. Available in sweat connect models only. The small base dimension means less space is required on the ground or roof.
- **Top Discharge** – The 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 Level** – 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 rippled fins of the condenser coil muffle the normal fan motor and compressor operating sounds.
- **Low Maintenance** – Long life permanently lubricated motor-bearings 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.
- **Agency Listed** – U.L. and C.U.L. listed – approved for outdoor application. The unit is certified in accordance with the Unitary Small Equipment certification program, which is based on AHRI Standard 210/240.

Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A <sup>1</sup>	B	C	Liquid	Vapor
18	28	23-1/2	23-1/2	3/8"	3/4"
24	28	23-1/2	23-1/2		
30	32	23-1/2	23-1/2		
36	34	23-1/2	23-1/2		7/8"
42	34	29	29		
48	34	29	29		
60	40	29	29	7/8"	

1. Including Fan Guard.

## PHYSICAL AND ELECTRICAL DATA

MODEL	GCGD18S 21S2	GCGD24S 21S2	GCGD30S 21S2	GCGD36S 21S2	GCGD42S 21S2	GCGD48S 21S2	GCGD60S 21S2
Unit Supply Voltage	208-230V, 1ϕ, 60Hz						
Normal Voltage Range	187 to 252						
Minimum Circuit Ampacity	8.5	13.2	14.0	18.2	19.9	22.7	33.5
Max. Overcurrent Device Amps	15	20	20	30	30	35	50
Min. Overcurrent Device Amps	15	15	15	20	20	25	35
Compressor Type Recip	Recip	Recip	Recip	Recip	Recip	Scroll	
Compressor	Rated Load	6.4	9.9	10.6	13.4	14.7	25.6
	Amps Locked Rotor	36	54	61.0	78.0	78.0	150.0
Crankcase Heater	No	No	No	No	No	No	No
Factory External Discharge Muffler	No	No	Yes	Yes	Yes	Yes	No
Factory External Check Valve	No	No	No	No	No	No	No
HS Kit Required with TXV	Yes	Yes	Yes	Yes	Yes	Yes	No
Fan Motor Amps	Rated Load	0.5	0.8	0.80	1.4	1.5	1.5
Fan Diameter Inches		18	18	18	22	22	22
Fan Motor	Rated HP	1/12	1/8	1/8	1/4	1/4	1/4
	Nominal RPM	1100	1075	1075	1100	850	850
	Nominal CFM	1550	1850	1950	2400	3000	3300
Coil	Face Area Sq. Ft.	9.7	9.7	11.3	12.1	16.5	19.75
	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	1-1/8
Unit Charge (Lbs. - Oz.)	See note 5 below						
Charge Per Foot, Oz.	0.66	0.68	0.68	0.68	0.70	0.70	0.76
Operating Weight Lbs.	130	130	150	160	175	176	200

# FRASER-JOHNSTON

Heating ■ Air Conditioning

## ADD-ON COILS

600 - 2000 CFM  
1.5 - 5 TON COILS

### DESCRIPTION

These cooling and heat pump coils are designed to be installed with UPG furnaces and to be matched with UPG cooling and heat pump outdoor units. All UPG coils utilize a TXV to provide our customers with the optimum performance and refrigerant control required for 13+ SEER systems. Coils can be ordered with a R22 TXV factory installed that can be easily converted to R410A by changing the bolt on TXV.

**Multi-Position Coils** - Designed for high-efficiency like the upflow/downflow coil but with the added flexibility that allows it to be installed any position, upflow, downflow, horizontal right or left. This coil can be easily applied to our furnace and modular air handler in any configuration.

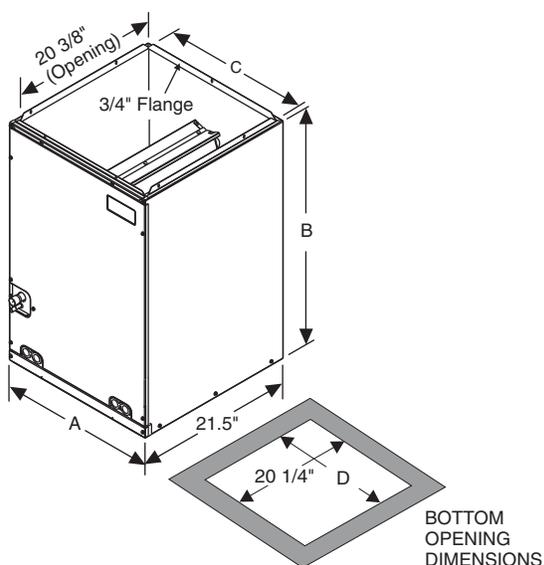
### FEATURES

**Insulated Cabinet** - Evaporator coil cabinets are thermally insulated with foil faced insulation to prevent sweating. HD coils use fiberglass turfskin insulation.

**Internally Clean** - All evaporator coils are factory leak-tested, dehydrated, sealed and shipped with a holding charge. The suction and liquid lines are sealed with rubber plugs, no cutting of connection stubs to attach line set.

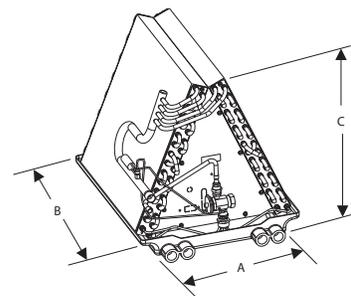
**Durable Finish Inside and Out** - Coil casings are made of prepainted steel. The pre-treated flat galvanized steel provides a better paint to steel bond, which resists corrosion and rust creep. All internal metal parts are made of G90 pre-painted steel i.e. triangular plates, top plates, horizontal supports etc. (Coil header plates are non-painted due to the brazing process during production.)

**Optimum Heat Transfer** - Using the latest in heat transfer technology, staggered rows of copper tubes are mechanically expanded into aluminum fins to provide optimum air to surface contact for ample moisture removal as well as high performance ratings.



UPFLOW/DOWNFLOW  
FULL CASED  
FC/MC

UPFLOW  
UNCASED  
UC



All models require either a piston or field installed TXV.

### Dimensions - UC Coils

Model	Dimensions - Inches			Refrigerant Connections	
	A	B	C	Liquid	Vapor
UC24A3XN1	13	19-7/8	21	3/8	3/4
UC24B3XN1	16	19-7/8	20.5	3/8	3/4
UC30B3XN1	16	19-7/8	20.5	3/8	3/4
UC36A3XN1	13	19-7/8	23.5	3/8	7/8
UC36B3XN1	16	19-7/8	22.5	3/8	7/8
UC36C3XN1	19.5	19-7/8	22	3/8	7/8
UC42B3XN1	16	19-7/8	26.5	3/8	7/8
UC42C3XN1	19.5	19-7/8	25.5	3/8	7/8
UC48C3XN1	19.5	19-7/8	23.5	3/8	7/8
UC48D3XN1	23	19-7/8	23	3/8	7/8
UC60C3XN1	19.5	19-7/8	25.5	3/8	3/8
UC60D3XN1	23	19-7/8	25	3/8	3/8

### Dimensions - FC Coils Upflow/Counterflow

Model	A	B	C	D	Refrigerant Line Size	
					Liquid	Vapor
FC24A3XN1	14.5	22	13-3/8	13.5	3/8	3/4
FC24B3XN1	17.5	22	16-3/8	16.5	3/8	3/4
FC30A3XN1	14.5	22	13-3/8	13.5	3/8	3/4
FC32A3XN1	14.5	20	13-3/8	13.5	3/8	3/4
FC36A3XN1	14.5	24.5	13-3/8	13.5	3/8	7/8
FC36B3XN1	17.5	24.5	16-3/8	16.5	3/8	7/8
FC36C3XN1	21	24.5	19-7/8	20	3/8	7/8
FC37A3XN1	14.5	24.5	19-7/8	20	3/8	7/8
FC42B3XN1	17.5	28	16-3/8	16.5	3/8	7/8
FC42C3XN1	21	28	19-7/8	20	3/8	7/8
FC48C3XN1	21	28	19-7/8	20	3/8	7/8
FC48D3XN1	24.5	28	23-3/8	23.5	3/8	7/8
FC60C3XN1	21	28	19-7/8	20	3/8	7/8
FC60D3XN1	24.5	28	23-3/8	23.5	3/8	7/8
FC62D3XN1	24.5	32	23-3/8	23.5	3/8	7/8
FC64D3XN1	24.5	36	23-3/8	23.5	3/8	7/8

### Dimensions - MC Coils Multi-Position

Model	A	B	C	D	Refrigerant Line Size	
					Liquid	Vapor
MC24A3XN1	14.5	26.5	13-3/8	13.5	3/8	3/4
MC24B3XN1	17.5	26.5	16-3/8	16.5	3/8	3/4
MC30A3XN1	14.5	26.5	13-3/8	13.5	3/8	3/4
MC30B3XN1	17.5	26.5	13-3/8	13.5	3/8	3/4
MC36A3XN1	14.5	26.5	13-3/8	13.5	3/8	7/8
MC36B3XN1	17.5	26.5	16-3/8	16.5	3/8	7/8
MC36C3XN1	21	26.5	19-7/8	20	3/8	7/8
MC42C3XN1	21	32	19-7/8	20	3/8	7/8
MC43B3XN1	17.5	26.5	16-3/8	16.5	3/8	7/8
MC43C3XN1	21	26.5	19-7/8	20	3/8	7/8
MC48C3XN1	21	32	19-7/8	20	3/8	7/8
MC48D3XN1	24.5	32	23-3/8	23.5	3/8	7/8
MC60C3XN1	24.5	32	19-7/8	20	3/8	7/8
C60D3XN1	24.5	32	23-3/8	23.5	3/8	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.

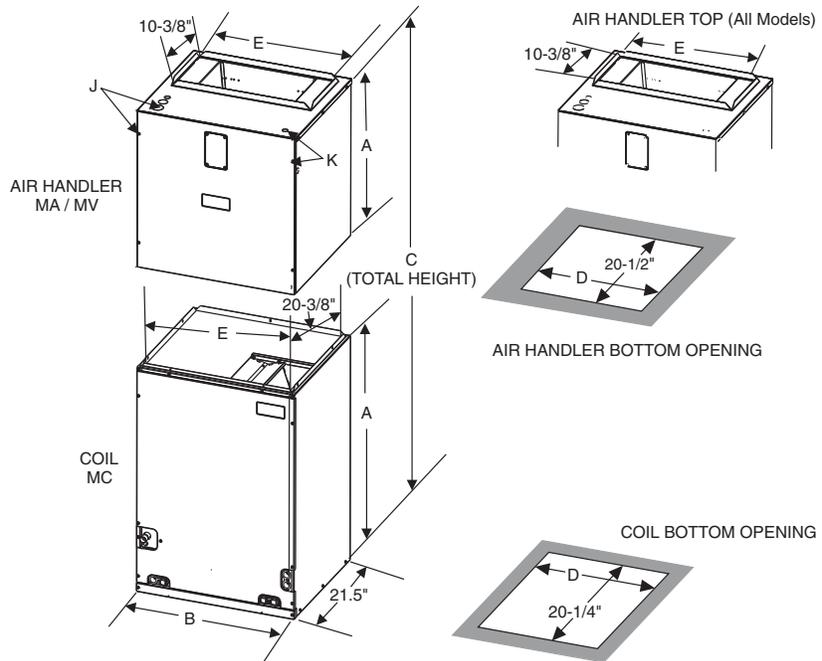
**FEATURES**

**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 <sup>1</sup>		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 <sup>2</sup>	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 <sup>2</sup>	25	21		20	18	1-23/32, (1-1/4)		—	—
MA20D <sup>2</sup>	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	3/4
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	—	—		7/8
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	—	—			

<sup>1</sup> Parenthesis indicate conduit size.

<sup>2</sup> 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 <sup>1</sup>				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

<sup>1</sup> See conversion Page 7.

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

**SINGLE PIECE AIR HANDLERS FOR USE WITH SPLIT-SYSTEM COOLING**

**MODELS: AHR18 THRU 60**



**DESCRIPTION**

This fan coil line offers the ultimate in application flexibility. The AHR (non-variable speed motor) models are shipped as upflow models, that can be installed in upflow, horizontal right or left without the need for additional field installed kits.

All JCI Unitary Products air handlers and coils use a TXV to provide our customers with the optimum performance and refrigerant control. Air handlers are shipped with "Flex-coils" without a factory installed metering device. For added flexibility, an R-22 or R-410A TXV or orifice can be field installed to meet your refrigerant choice.

**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**

**Thermal Expansion Valve** – Provides the ultimate refrigerant control required for today's high efficient product. The UPG bolt-on TXV provides the added flexibility to con-

vert the air handler to the required refrigerant. The UPG TXV is a true bolt-on which does not require brazing to replace or install.

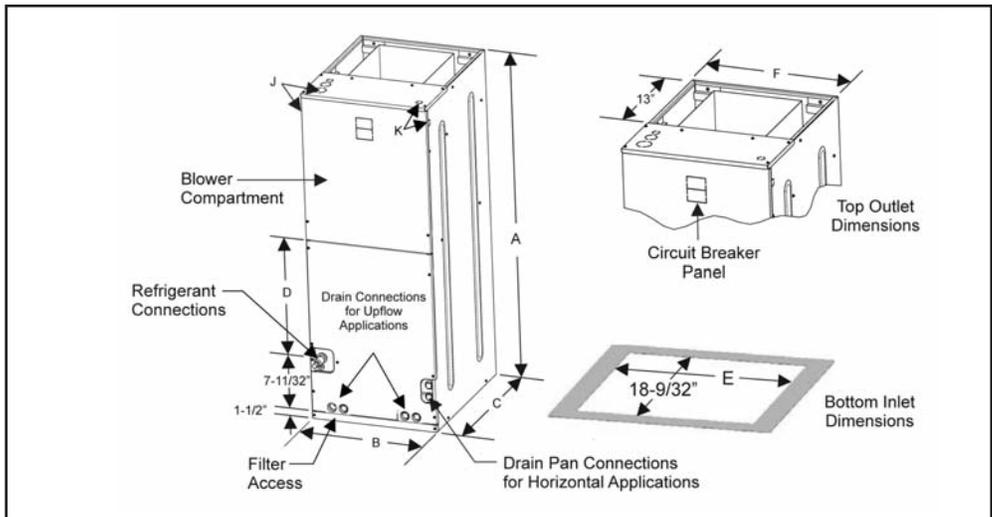
**Insulated Cabinet** – All air handler cabinets are thermally insulated with 3/4" foil faced insulation to prevent sweating.

**Factory Sealed** – Achieves 2% or less total airflow leakage rate at duct blaster field test conditions for system airflow verification.

**Durable Finish Inside and Out** – Air handler casings are made of pre-painted galvanized steel which provides a better paint to steel bond that resists corrosion and rust creep. All internal coil sheet metal parts are made of G60 galvanized or prepainted G30 galvanized.

**Filters** – All models have internal filter racks provided for use with 1" thick standard size filters.

**Electric Heat Kits** – New 6HK series of field installed electric heat kits are available for installation friendly and easy service applications. These 6HK kits are unique to these new models.



**DIMENSIONS**

Models	Dimensions						Wiring Knockouts		Refrigerant Connections Line Size	
	A Height	B Width	C Depth	D	E	F	J Power	K Control	Liquid	Vapor
AHR18B3XH21	46"	17-1/2"	21 1/2"	16-1/2"	13-29/32"	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"
AHR24B3XH21	46"	17-1/2"		16-1/2"	13-29/32"	16-1/2"				
AHR30B3XH21	46"	17-1/2"		16-1/2"	13-29/32"	16-1/2"				
AHR36B3XH21	46"	17-1/2"		16-1/2"	13-29/32"	16-1/2"				
AHR42C3XH21	52"	21"		21-1/2"	17-13/32"	20"				
AHR48D3XH21	57"	24-1/2"		26"	20-29/32"	23-1/2"				
AHR60D3XH21	57"	24-1/2"	26"	20-29/32"	23-1/2"				7/8"	

**PHYSICAL & ELECTRICAL DATA - COOLING ONLY (60 Hz)**

Models	AHR18B	AHR24B	AHR30B	AHR36B	AHR42C	AHR48D	AHR60D	
Blower - Diameter x Width	10 x 8	10 x 8	10 x 8	10 x 8	10 x 10	10X10	10X10	
Motor	HP	1/4 HP	1/4 HP	3/4 HP	3/4 HP	3/4 HP	3/4 HP	
	RPM	1075	1075	1075	1075	1075	1075	
Voltage	208/230	208/230	208/230	208/230	208/230	208/230	208/230	
Amps	Full Load (230)	1.4	1.4	3.8	3.8	3.8	3.8	
Filter:	Type	DISPOSABLE OR PERMANENT						
	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	22 x 20 x 1
	Permanent Type Kit	1PF0601BK	1PF0601BK	1PF0601BK	1PF0601BK	1PF0602BK	1PF0603BK	1PF0603BK
Shipping / Operating Weight (lbs.)		112/100	117/102	117/105	122/110	148/133	165/147	168/150



**SINGLE PIECE AIR HANDLER**

**ELECTRICAL DATA - 208/230-1-60**

Models	Heater Models*	Max. Static	PSC Min. Speed Tap	Total Heat <sup>†</sup>				kW Staging			
				kW		MBH		W1 Only		W1 + W2	
				208V	230V	208V	230V	208V	230V	208V	230V
AHR18B3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Med	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Med	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
AHR24B3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Med	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	High	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	High	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
AHR30B3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Med	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	High	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	High	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
AHR36B3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Med	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	High	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	High	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK16501806	0.3	High	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK16502006	0.3	High	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
AHR42C3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Med	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	High	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	High	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
AHR48D3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Low	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	Med	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	Med	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK16501806	0.3	Med	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK16502006	0.3	High	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
AHR60D3XH21	6HK*6500206	0.3	Low	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK*6500506	0.3	Low	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK*6500806	0.3	Low	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.1
	6HK*6501006	0.3	Med	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK16501306	0.3	Med	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK16501506	0.3	Med	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK16501806	0.3	Med	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK16502006	0.3	High	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
	6HK16502506	0.3	High	18.0	21.9	61.4	74.9	7.2	8.8	18.0	22.0

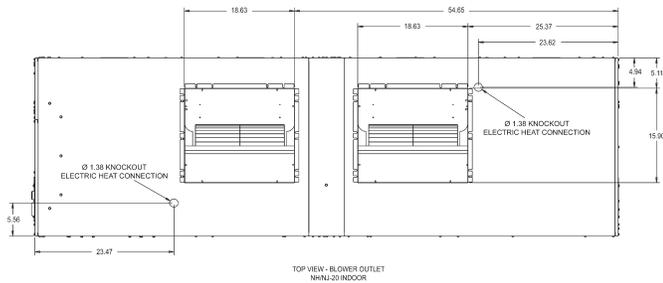


**SPLIT-SYSTEM  
EVAPORATOR BLOWERS**

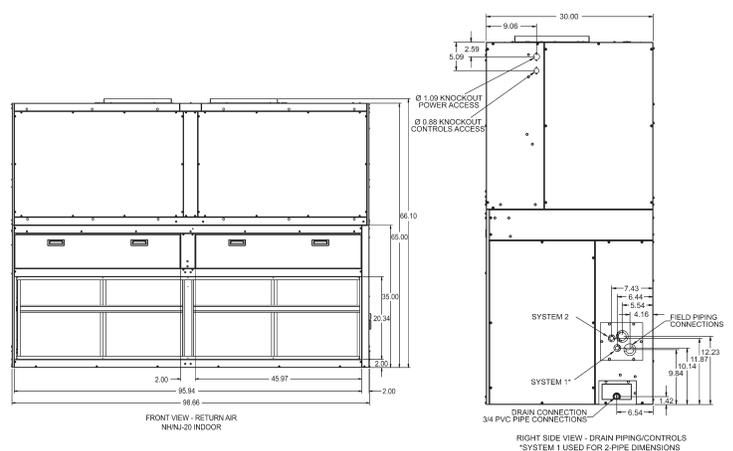
**Indoor Unit Physical Data**

Component	Models						
	NH-07	NH-10	NJ-10	NH-15	NJ-15	NH-20	NJ-20
<b>Nominal Tonnage</b>	7 1/2	10	10	15	15	20	20
<b>DIMENSIONS (inches)</b>							
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
<b>WEIGHTS (lb)</b>							
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
<b>INDOOR BLOWER (Forward Curve)</b>							
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
<b>INDOOR COIL</b>							
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
<b>SYSTEM DATA</b>							
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
<b>FILTERS</b>							
Size and Quantity Per	16 x 25 x 2	4	4	---	---	8	8
Model (In.)	20 x 24 x 2	---	---	6	6	---	---
<b>FACE AREA (SQ. FT.)</b>							
Size and Quantity Per	16 x 25 x 4	4	4	---	---	8	8
Model (In.)	18 x 24 x 4	---	---	6	6	---	---
<b>FACE AREA (SQ. FT.)</b>	11.1	11.1	11.1	18.0	18.0	22.2	22.2

TOP VIEW



FRONT AND SIDE VIEW

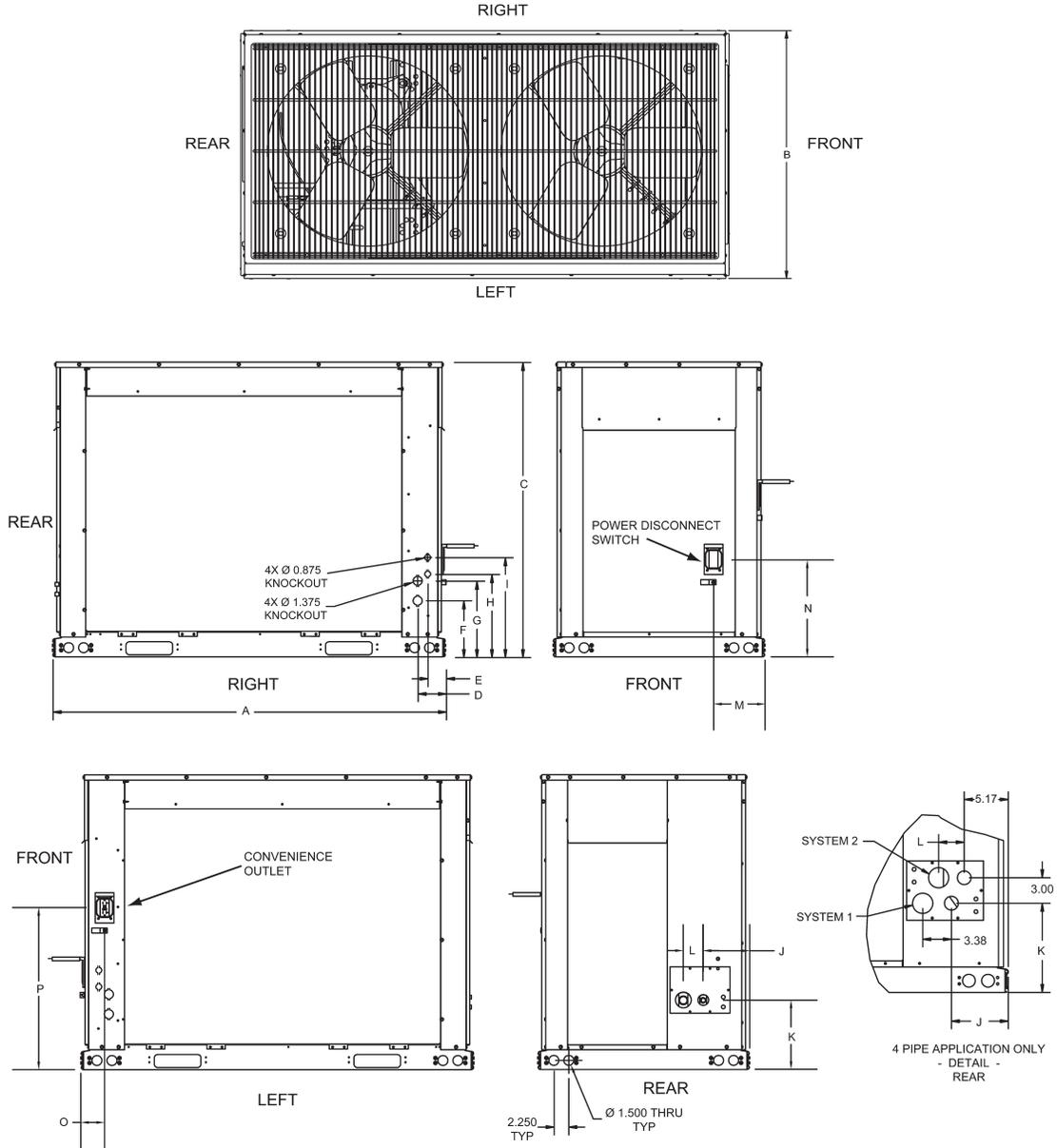


Unit Dimensions NH/NJ-20

**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
<b>Nominal Tonnage</b>	<b>7.5</b>	<b>10</b>	<b>10</b>	<b>12.5</b>	<b>12.5</b>	<b>15</b>	<b>15</b>	<b>20</b>	<b>20</b>
<b>REFRIGERANT</b>									
Refrigerant type	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
<b>DIMENSIONS (inches)</b>									
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
<b>WEIGHTS (lb)</b>									
Shipping	330	450	445	450	445	685	685	715	715
Operating	325	445	440	445	440	675	675	710	710
<b>COMPRESSORS</b>									
Type	Single Scroll	Tandem Scroll	Single Scroll	Tandem Scroll					
Quantity	1	1	2	1	1	1	1	1	1
<b>Nominal Capacity (Tons)</b>									
System #1	7.5	10	5	12.5	6.3	15	7.5	20	10
System #2	---	---	5	---	6.3	---	7.5	---	10
<b>Capacity Stages</b>									
System #1	1	2	1	2	1	2	1	2	1
System #2	---	---	1	---	1	---	1	---	1
<b>SYSTEM DATA</b>									
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
<b>OUTDOOR COIL DATA</b>									
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								
Refrigerant Control	---	---	---	---	---	---	---	---	---
<b>CONDENSER FAN DATA</b>									
No. Fans / Diameter (in.)	2/24	2/24	2/24	4/24	4/24	4/24	4/24	4/24	4/24
Type	Axial								
Drive type	Direct								
No. speeds	1	1	1	1	1	1	1	1	1
<b>Number of motors</b>									
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								
RPM	850	850	1100	1100	1100	850	850	1100	1100
<b>Nominal CFM</b>									
System #1	7500	9800	9800	9800	9800	15000	7500	19600	9800
System #2	---	---	---	---	---	---	7500	---	9800

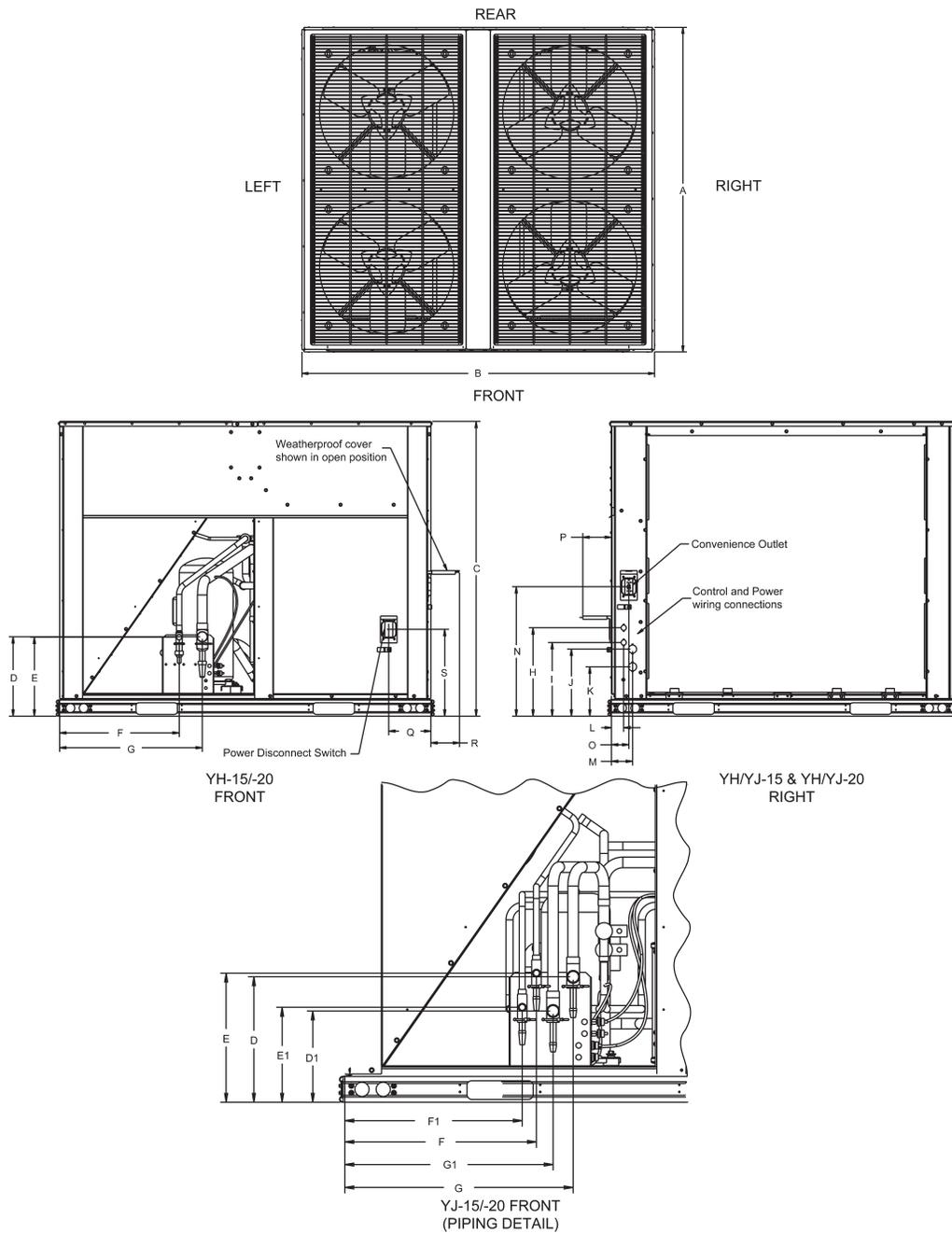
**SPLIT-SYSTEM  
EVAPORATOR BLOWERS**



**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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### DESCRIPTION

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

The gas-fired heaters have aluminized steel tubular heat exchangers and hot surface to pilot ignition. They are available in natural gas with field conversion to propane.

### STANDARD FEATURES and BENEFITS

**OPERATING EFFICIENCY** - All units provide high operating efficiencies and have a minimum AFUE of 80% and SEER of 13 or above. All efficiencies exceed legislated minimum levels.

**ON SITE FLEXIBILITY** - All model sizes share a common, compact design cabinet with a single footprint. The installer has the flexibility of setting one curb and placing the proper tonnage unit on that curb after the internal load has been determined. Field convertible duct connections from side shot to down shot allows the installer to have greater flexibility and needs to carry 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, plus, the installer can fit this unit between the wheel wells of full size pick-up truck. All models are well under 500 pounds.

All units are completely wired, charged with R410A and tested prior to shipment. Unique test stations using a new state of the art computerized process system are used to insure product quality.

Refrigerant charge, and component part numbers are verified via computers at installation. 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 allows easy hook-up of ducts to match low crawl spaces without transition pieces.

**UTILITY CONNECTIONS MADE EASY** - Gas and electric utility knockouts are provided through the bottom as well as 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, you 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.

## SINGLE PACKAGE GAS/ELECTRIC AIR-COOLED AIR CONDITIONERS

### D6NZ 024 THRU 060 - R410A 2 THRU 5 NOMINAL TONS 13 SEER / 80% AFUE

**CONDENSATE PAN** - A non-corrosive, long-lasting, water-tight pan is positioned below the evaporator coil to collect and drain all condensate. Less collection of stagnate condensate will build-up. The condensate pan conforms to ASHRAE 62-89 standards (Ventilation for Acceptable Indoor Air Quality).

**CONDENSATE DRAIN** - The heavy duty, 3/4 inch NPTI copper connection is more tolerable during installation and is more durable over time. The connection is rigidly mounted to assure proper fit and leak tight seal.

**DURABLE FINISH** - With a heavy duty cabinet made of powder-painted, galvanized steel the neutral color blends into surrounding areas. The powered paint, provides a better paint to steel bond, which resists corrosion and rust creep. The special primer formulas and glossy earth tone finish insure less fading when exposed to sunlight and offers a more attractive on site appearance. This paint finish exceeds ASTM-B117 standards for 750 hours salt spray rating. The highest in the industry.

**FULL PERIMETER BASE RAILS** - The easily removable base rails provide a solid foundation for the entire unit and protects the unit during shipment. The rails provide fork lift access from all sides, and rigging holes are also provided so that an overhead crane can be used to place the units on a roof. On applications when the unit is placed on a pad, the base will keep the unit off the pad to deter corrosion. On applications where height is limited, the 2-3/8 inch high base rails may be removed on location.

**MORE ATTRACTIVE APPEARANCE** - A single piece "Water Shed" top cover containing a top discharge condenser fan arrangement requires less square footage on installation and provides a wider variety of installations. The one piece design adds greater water integrity. Rounded corners with water drip edges add to the attractive appearance. The cabinet panels have a non-fibrous insulation that does not add insulation fibers into conditioned area.

**TOP DISCHARGE** - The top discharge condenser fan does not disrupt neighboring areas or does this dry-out vegetation surrounding the unit. The 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.

**CONDENSER COIL GRILLE** - A multi-piece totally enclosed, rigidly mounted condenser coil grille provides protection from objects and personal after installation and provides protection during transit and installation.

**LOW OPERATING SOUND LEVEL** - The upward air flow carries the normal operating noise up and away from the living area. The rigid top panel effectively isolates any motor sound. Isolator mounted compressor and the rippled fins of the condenser coil muffle the normal fan motor and compressor operating sounds. The unique formed base pan also aids in sound alterations with its "Super-Structure" design. This design strategically places embossments in the pan for optimum strength and rigidity.

**FAN SYSTEM** - All models operate over a wide range of design conditions with a 3-speed direct-drive fan motor. These units easily match all types of applications and provides greater on site flexibility to match comfort requirement. Single phase models have the "Comfort-Match" system that allows different speed taps for heating or cooling operations. This allows maximum comfort conditions.

**SIMPLE CONTROL CIRCUIT** - A low voltage printed circuit board contains a diagnostic indicator light and

a low voltage terminal strip. An additional set of pin connectors is also provided to simplify the field interface of external controls. Mate-n-lock plug connectors are used. The electrical control box is not located in the compressor compartment. The controls are mounted on a "Control-Tilt" control panel to allow the access cover to be removed for trouble shooting and maintenance without affecting the normal system operating pressures. All wiring internal to the unit is color/number coded.

**PROTECTED COMPRESSOR** - The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of high pressure relief valve and a temperature sensor which protect the compressor if undesirable operating conditions occur.

**EXCLUSIVE COIL DESIGN** - Grooved copper tubes and enhanced aluminum fin construction improves heat transfer for maximum efficiency and durability.

**HEAT EXCHANGERS** - Are corrosion-resistant, aluminized-steel tubular construction to provide long-life, trouble-free operation. The unique blow-thru design also assures that condensate does not collect in humid areas when in the cooling cycle. This adds to longer heat exchanger life and higher long term efficiencies.

**"POST PURGE" INDUCED DRAFT COMBUSTION** - Exhausts combustion products from the heat exchanger upon completion of the heating cycle to prolong the heat exchanger life.

**SELF DIAGNOSTIC FAN CONTROL MODULE** - Due to this self diagnostic control, less on site time is required to trouble shoot these units.

**SPARK TO PILOT IGNITION** - Provides faster heat delivery. This ignition is highly reliable, durable and eliminates nuisance lockouts. Also assures starts in damp conditions.

**MULTI PORT IN-SHOT BURNERS** - No field adjustment is required to mix the air and gas. These burners are constructed of high-grade corrosion-resistant, aluminized-steel.

**LOW MAINTENANCE** - Long life, permanently lubricated condenser and evaporator fan motor bearings need no annual maintenance adding greater reliability to the unit. Blower assembly can be easily cleaned by the unique "Slip-Track" slide-out blower assembly.

**SECURED SERVICE ACCESS PORTS** - Protected, externally mounted, re-usable service access ports are provided on both the high and low lines for ease of evacuating and charging the system. No final field mounting required.

**EASY SERVICE ACCESS** - A large, single panel covers the electrical and gas controls makes servicing easy. The blower compartment has an additional large panel with a built-in handle tab. Removing this panel will allow the blower assembly to slide-out for easy removal for maintenance and ease of trouble shooting.

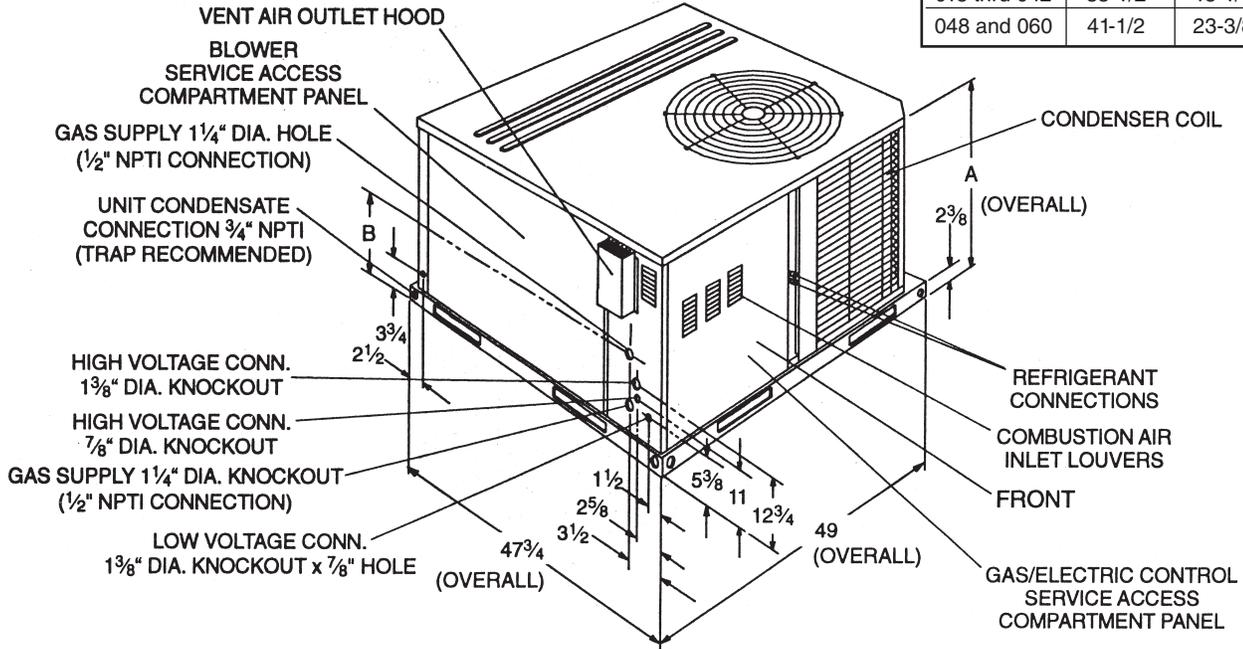
**REPLACEMENT PARTS** - The installer has no need to carry an inventory of unique parts or needs special training to replace any of the components parts for these units. All are easily obtained from Source 1 or other part houses.

**SYSTEM INTEGRATION** - Each unit has the internal ability to integrate an electronic air cleaner or humidifier to work in conjunction with the base unit.

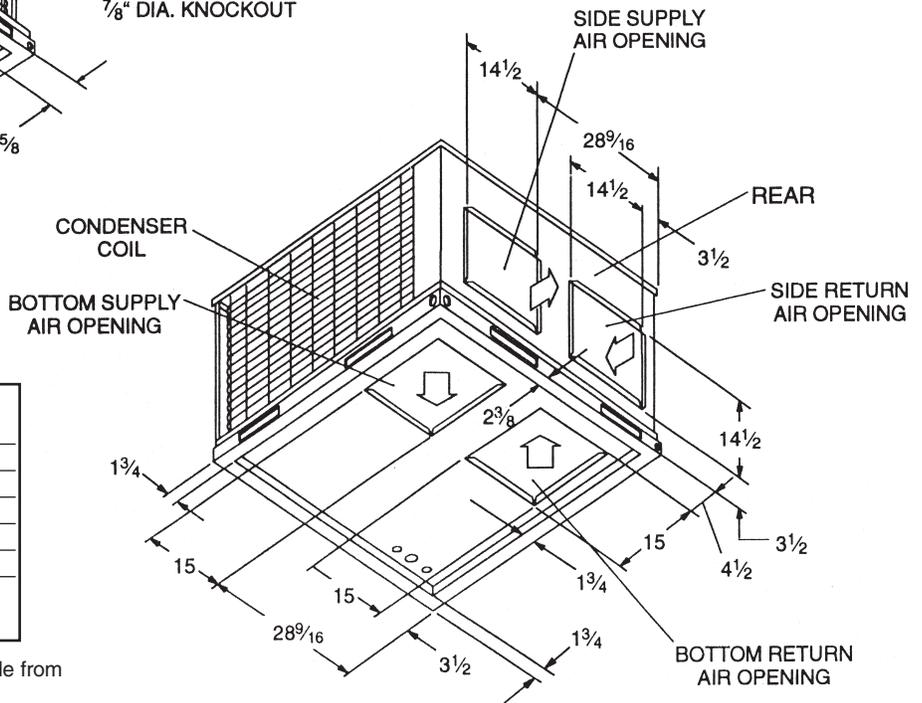
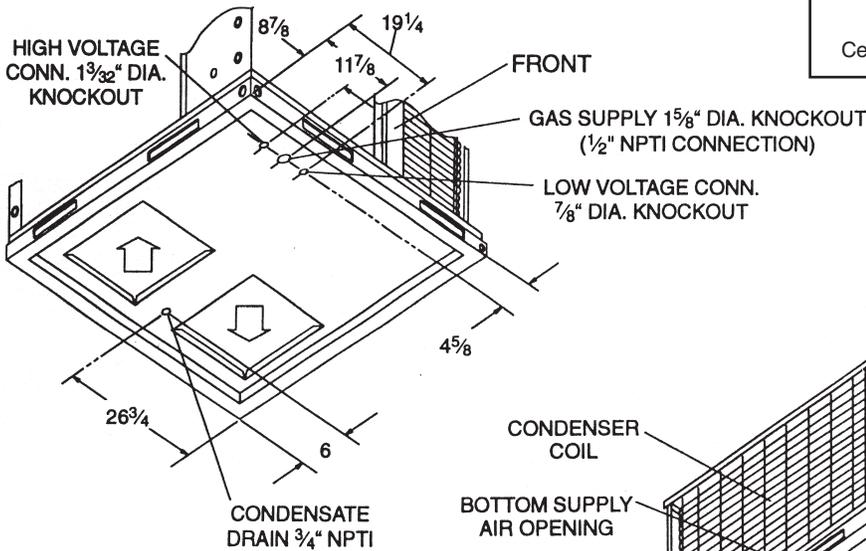


**UNIT DIMENSIONS**

Unit Size	Dimension	
	A	B
018 thru 042	33-1/2	18-1/4
048 and 060	41-1/2	23-3/8



All dimensions are in inches.  
They are subject to change without notice.  
Certified dimensions will be provided upon request.



CLEARANCES (Minimum)	
Front	36"
Back	0"
Left Side (Filter Access)	24"
Right Side	12"
Below Unit <sup>1</sup>	0"
Above Unit <sup>2</sup>	36" (For Condenser Air Discharge)

<sup>1</sup> Units may be installed on combustible floors made from wood or class A, B or C roof covering material.  
<sup>2</sup> Units must be installed outdoors. Overhanging structures or shrubs should not obstruct condenser air discharge outlet.

**POWER WIRING  
ELECTRICAL DATA**

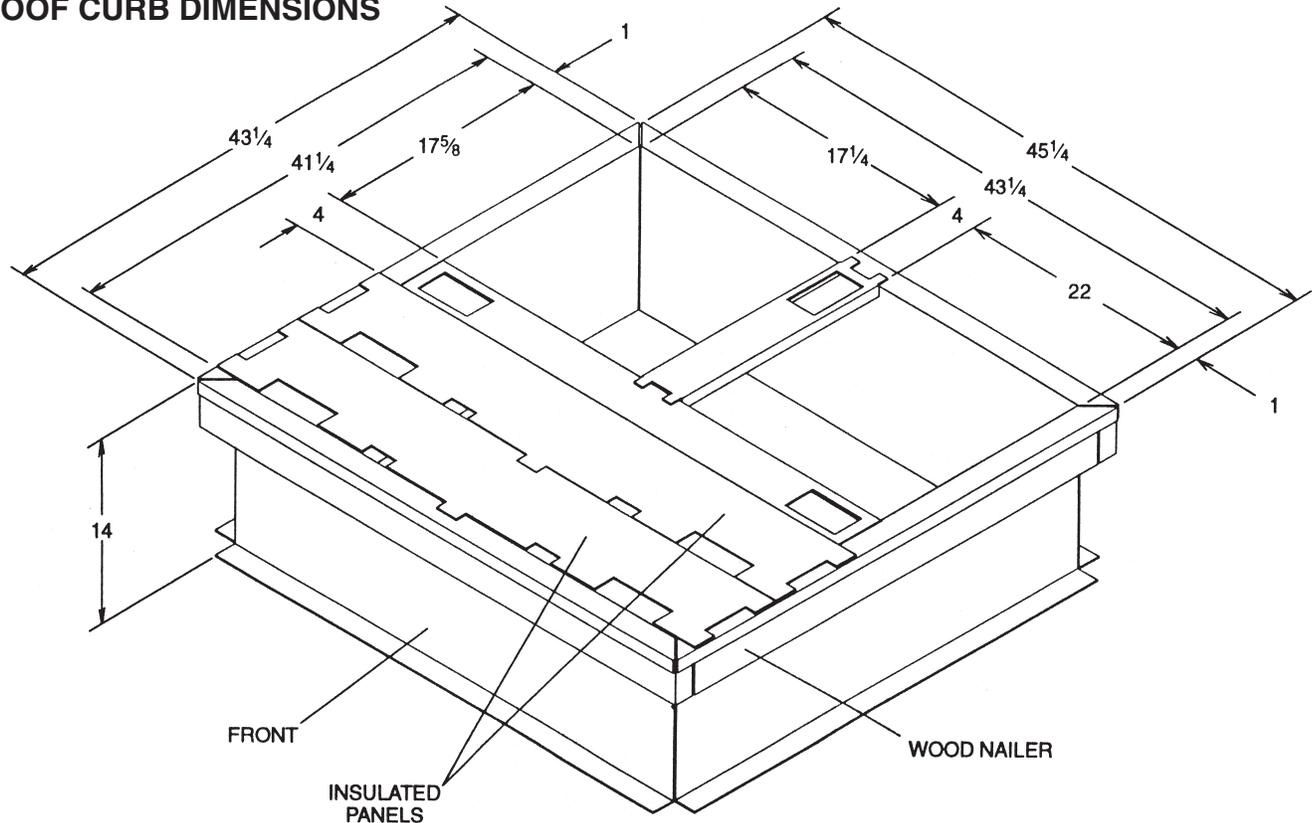
MODEL D*YZ	POWER SUPPLY	VOLTAGE LIMITATIONS <sup>1</sup>		COMPRESSOR		COND. FAN MOTOR, FLA	SUPPLY AIR BLOWER MOTOR, FLA	MINIMUM CIRCUIT AMPACITY	MAX. FUSE SIZE AMPS <sup>2</sup>	MAX. HACR BREAKER SIZE AMPS	SOUND RATING dB
		MIN.	MAX.	RLA	LRA						
024	208/230-1-60	187	252	9.3	43	1.4	4.1	17.1	25	25	77
030	208/230-1-60	187	252	13.1	74	1.3	6.0	23.7	30	25	74
036	208/230-1-60	187	252	14.7	74.0	1.3	6.0	25.7	35	35	74
042	208/230-1-60	187	252	15.7	88.0	1.7	6.0	27.3	35	35	79
048	208/230-1-60	187	252	20.5	115.0	1.7	7.6	34.9	45	45	79
060	208/230-1-60	187	252	26.2	150.0	2.3	7.6	42.7	60	60	80
036	208/230-3-60	187	252	9.1	68.0	1.3	6.0	18.7	25	25	74
042	208/230-3-60	187	252	15.7	88.0	1.7	6.0	19.3	25	25	79
048	208/230-3-60	187	252	16.0	120	1.7	7.6	29.3	40	40	79
060	208/230-3-60	187	252	17.9	120	2.3	7.6	32.3	40	40	80
036	460-3-60	432	504	4.5	34.0	0.8	3.0	9.4	15	15	74
042	460-3-60	432	504	5.1	34.0	1.0	3.0	10.4	15	15	79
048	460-3-60	432	504	7.7	50.0	1.0	3.8	14.4	20	20	79
060	460-3-60	432	504	9.6	70.0	1.3	3.8	17.1	25	25	80

NOTE: Electrical data based on 104°F outdoor air ambient temperature.

<sup>1</sup> Utilization Range "A" in accordance with API Standard 110.

<sup>2</sup> Dual element, time delay type.

**ROOF CURB DIMENSIONS**



**SINGLE PACKAGE  
AIR CONDITIONERS**

**ZS Series**  
**3, 4, 5, 6 NOMINAL TONS**  
**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 <sup>1</sup>				NOMINAL ELECTRIC HEAT CAPACITY <sup>3</sup> (KW)		
	COOLING CAPACITY 80 / 67-95°F			SOUND RATING <sup>2</sup> (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 <sup>1</sup>				GAS HEAT CAPACITY							
	COOLING CAPACITY 80/67-95°F			SOUND RATING <sup>2</sup> (bels)	INPUT (MBH)	OUTPUT (MBH)		AFUE (%)	S.S.E. (%)	S.E. (%)	TEMP RISE (°F)	GAS LINE SIZE (in. OD)
	MBH	SEER	EER*			1Ø	3Ø					
ZS03N11AFAAA1	40	9.05	8.65	8.4	100	82	81	80.0	79.0	71.0	40-70	1/2
ZS04N13AFAAA1	48	9.00	8.60	8.3	125	103	101	79.0	78.0	73.0	45-75	1/2
ZS05N13AFAAA1	58	9.00	8.60	8.1	125	103	101	80.0	78.5	73.5	35-65	1/2
ZSA6N13ATAAA1	72	9.00	8.6	8.1	125	--	101	80.0	78.05	73.5	35-65	1/2

\*Not ARI Listed

<sup>1</sup> Ratings are in accordance with ARI Standard 210.

<sup>2</sup> Sound ratings are in accordance with ARI Standard 270.

<sup>3</sup> Heaters available as accessories – all with single point power supply.

**COMPONENT WEIGHTS**

COMPONENT		MODELS ZW		
		3 TON	4 TON	5/6 TON
Basic Unit ZS (Gas / Electric)	ZS (Cooling only)	545	585	610
	62 Mbh	-	645	-
	82 Mbh	615	-	670
	103 Mbh	-	655	680
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 #
ZS03N11ATAAA1
ZS04N13ATAAA1
ZS05N13ATAAA1
ZSA6N13ATAAA1

**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
CONDENSER FAN	PROPELLER DIA. (in.)	24	24	24
	FAN MOTOR HP	1/2	1/2	1/2
	NOM. CFM TOTAL	4500	4200	4500
CONDENSER COIL	ROWS DEEP	1	2	2
	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	2
	QUANTITY PER UNIT (14" x 25" x 1" or 2")	1	1	1
	TOTAL FACE AREA (Sq. Ft.)	6.3	6.3	6.3
CHARGE	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 <sup>1</sup>	0"
Above Unit <sup>2</sup>	72" (For Condenser Air Discharge)

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

<sup>2</sup>Units 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.

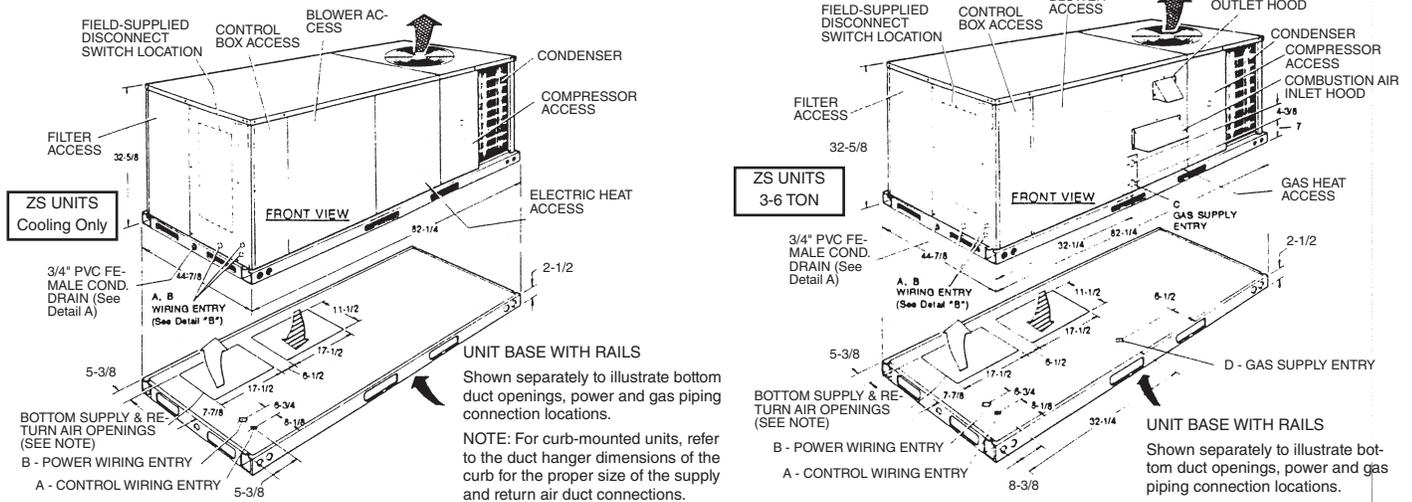
## UTILITIES ENTRY DATA

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)

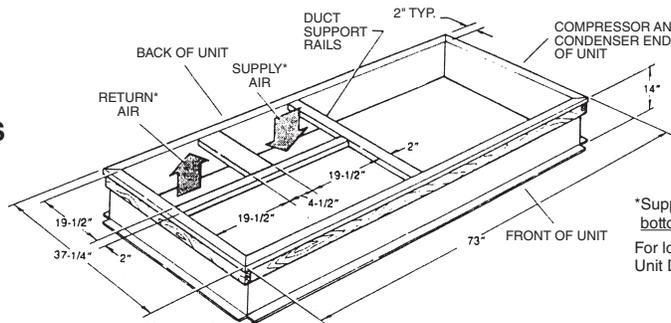
## ELECTRICAL DATA - BASIC UNITS

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

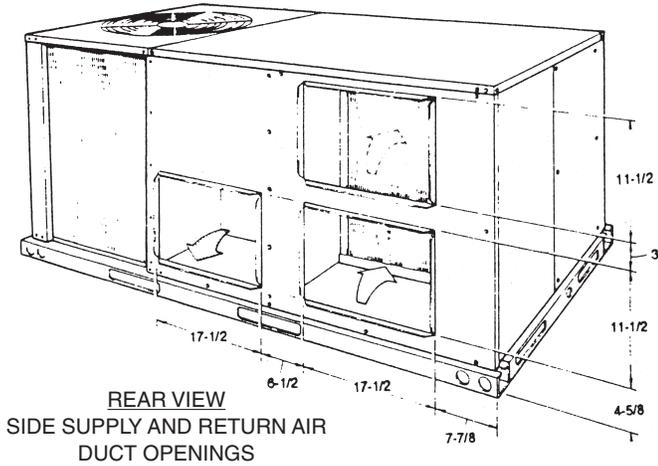


\*Supply and Return Air (including duct support rails) shown are typical for bottom discharge applications.

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

**SINGLE PACKAGE  
AIR CONDITIONERS**

**UNIT DIMENSIONS - CONT'D. (ZW 3, 4 & 5 TON)**



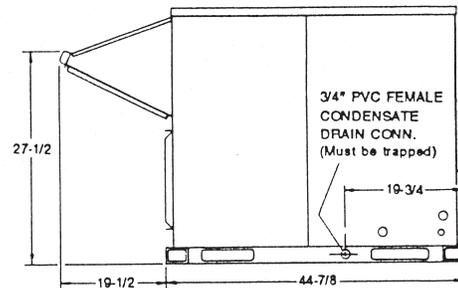
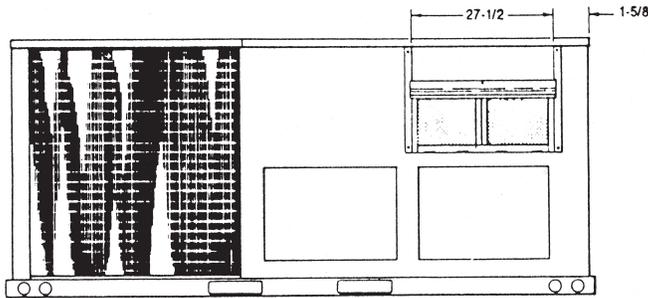
DUCT COVERS - Units are shipped with all air duct openings covered.

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.

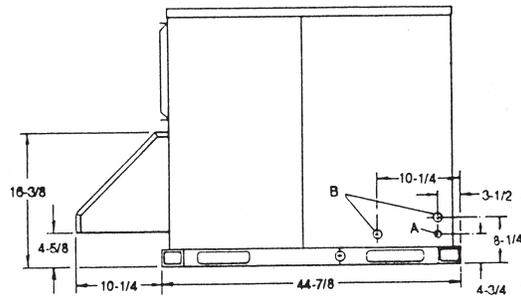
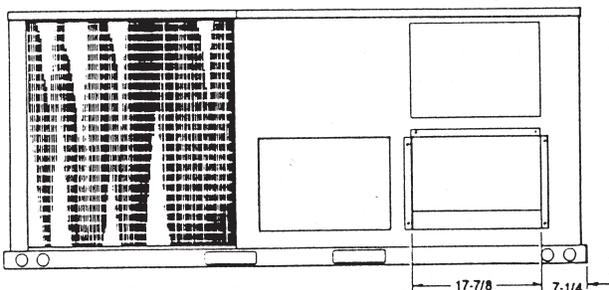
For bottom duct applications;

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.



DETAIL "A"

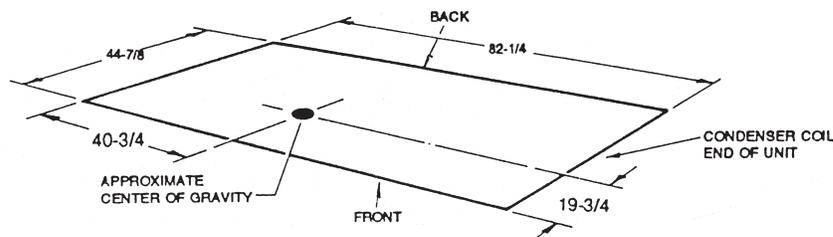
UNIT WITH ECONOMIZER RAIN HOOD



DETAIL "B"

UNIT WITH FIXED OUTDOOR AIR / BAROMETRIC RELIEF RAINHOOD

**CENTER OF GRAVITY**





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

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

## 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:

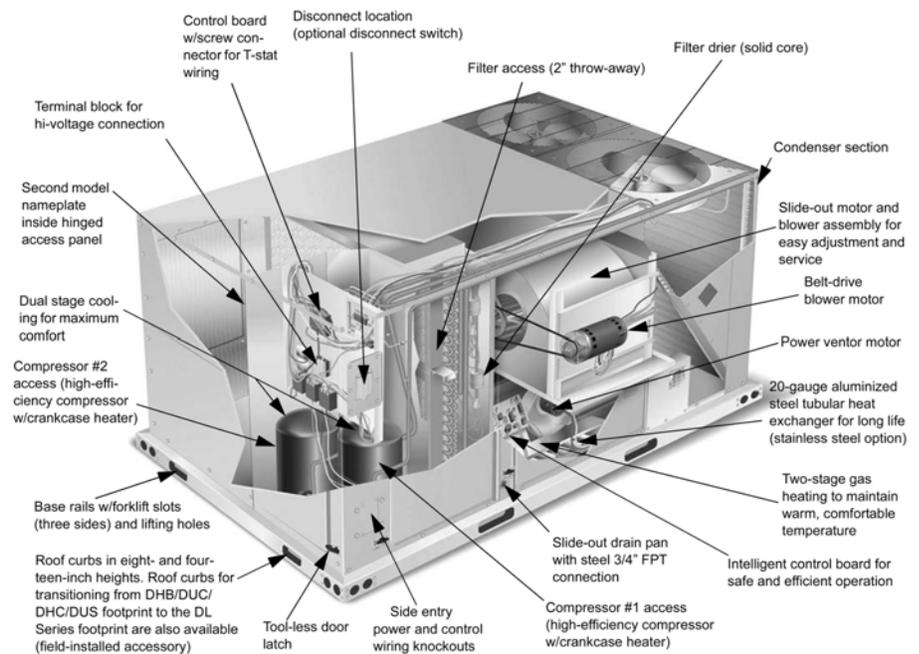


This product was manufactured in a plant whose quality system is certified/registered as being in conformity with ISO 9001

## 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.



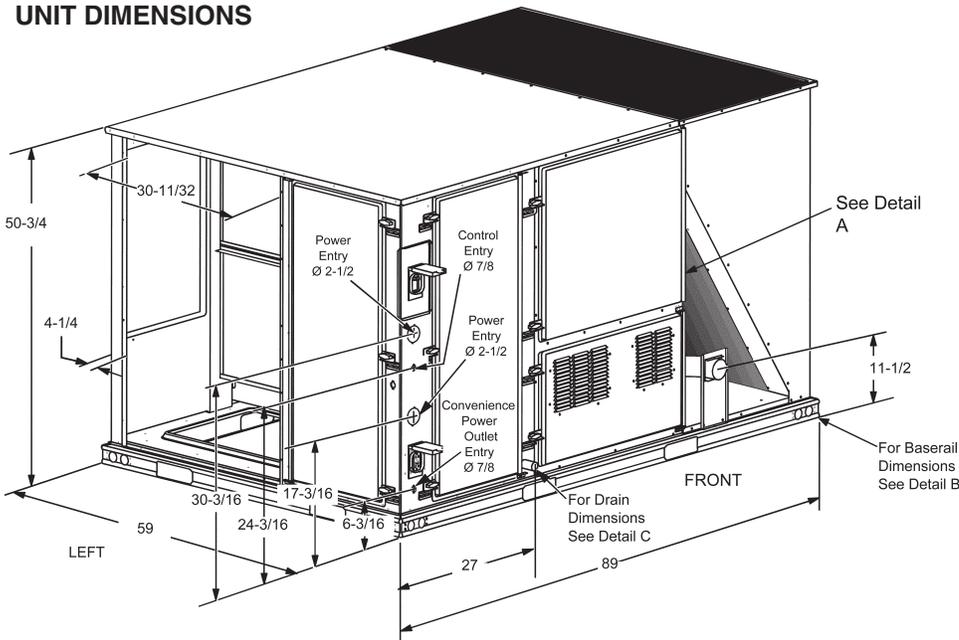
The non-corrosive drain pan slides out of the unit to permit easy cleaning. The drain pan is accessed by removing the drain pan cover plate on the rear of the unit. Once the plate is removed, the drain pan slides out through the rear of the unit.

# 2-26

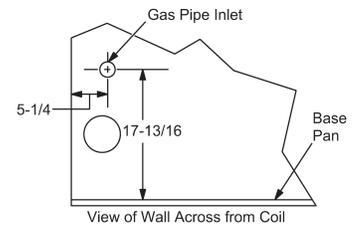
## PHYSICAL DATA

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. <sup>2</sup> 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. <sup>2</sup> 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

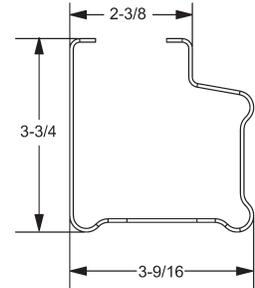
## UNIT DIMENSIONS



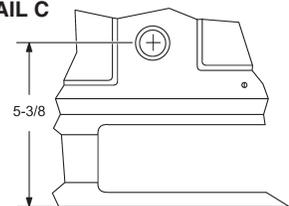
### DETAIL A



### DETAIL B



### DETAIL C



## UNIT CLEARANCES

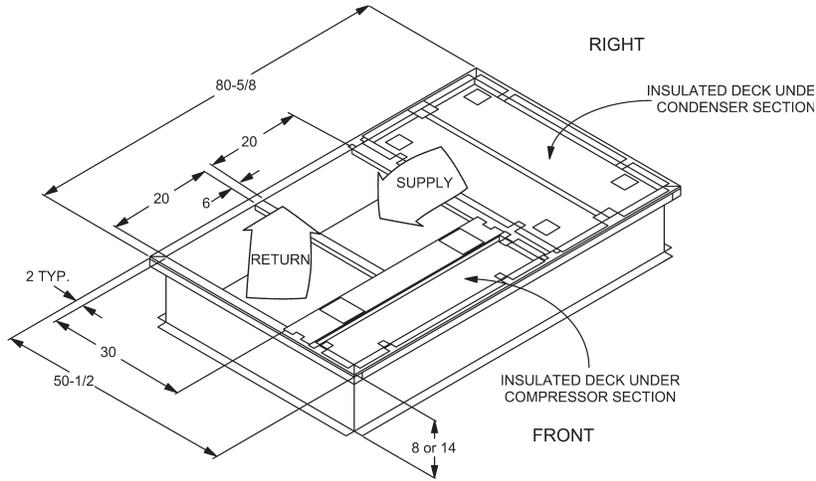
Top*	72"	Right	12"
Front	36"	Left	36"
Rear†	36"	Bottom‡	0"

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

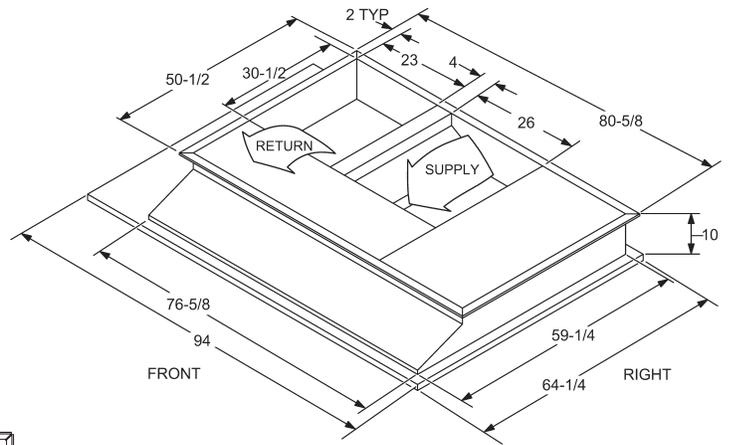
† To remove the slide-out drain pan, a rear clearance of 60" is required. If space is unavailable, the drain pan can be removed through the front by separating the corner wall.

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

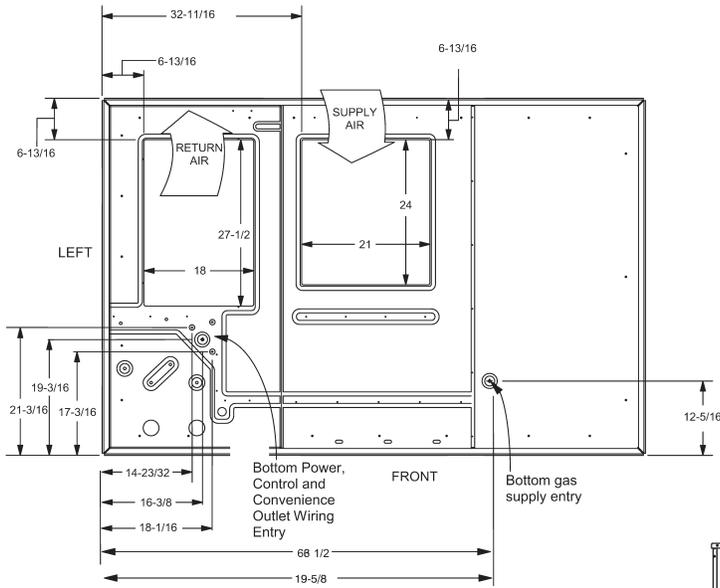
**UNIT ROOF CURB DIMENSIONS**



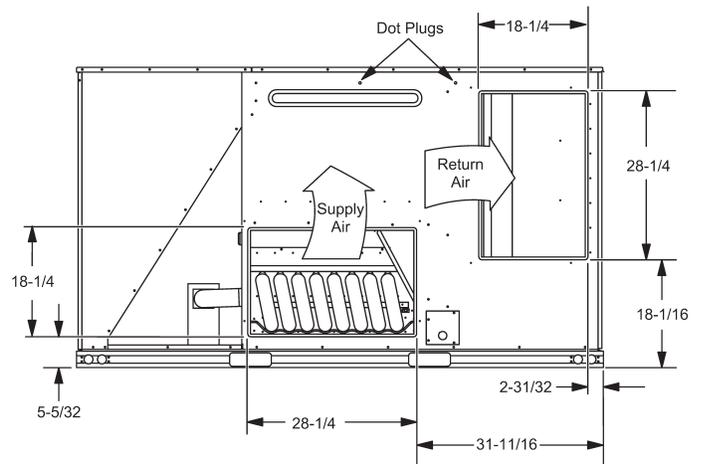
**TRANSITION ROOF CURBS**



**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
<b>COOLING ONLY</b>		
ZS-15C00	178	12.4
ZS-20C00	238	11.6
<b>COOLING WITH GAS HEAT</b>		
ZS-15N30	178	12.4
ZS-15N40	178	11.6
ZS-20N30	236	12.4
ZS-20N40	236	11.6

MODEL	MBH	EER
<b>COOLING WITH ELECTRIC HEAT</b>		
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 MOTOR HP (Each)	1/3	1/3
(Two Per Unit)	NOM. CFM TOTAL (Each)	4000	5000
CONDENSER	ROWS DEEP	2	3
	FINS PER INCH	20	20
COIL	FACE AREA (Sq. Ft.)	63.8	63.8
	10-TON TANDEM	-	-
COMPRESSOR (Qty. Per Unit)	5-TON HERMETIC	4	4
AIR FILTERS	QUANTITY PER UNIT (12" x 24" x 2")	12	12
	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 <sup>1</sup>			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 <sup>2</sup>	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 <sup>2</sup>	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
		RLA	LRA	RLA	LRA								
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

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

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

**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.

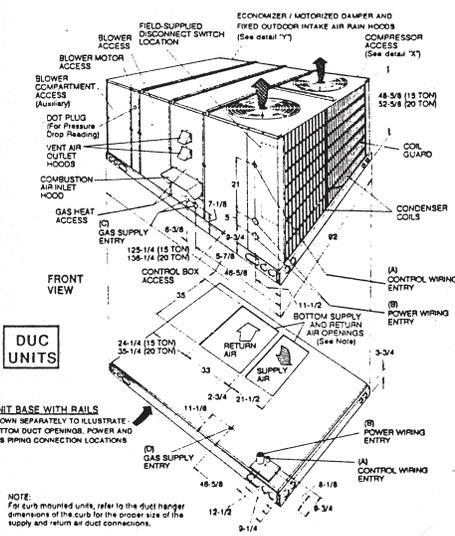
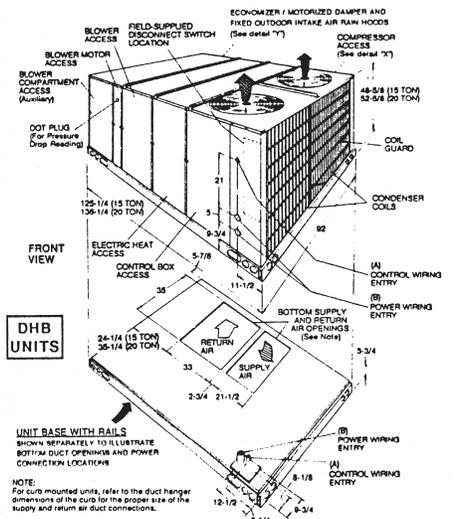
AFUE – Annual Fuel Utilization Efficiency (77.5%) – determined in accordance with DOC test procedure.

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

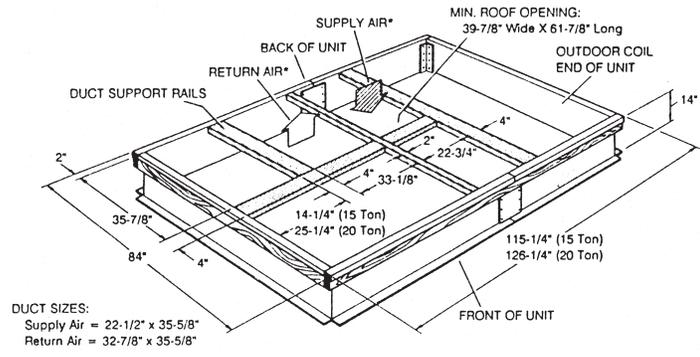
S.E. – California Seasonal Efficiency (71.0%) – determined in accordance with test procedure as specified by the State of California Energy Commission.

# SINGLE PACKAGE AIR CONDITIONERS

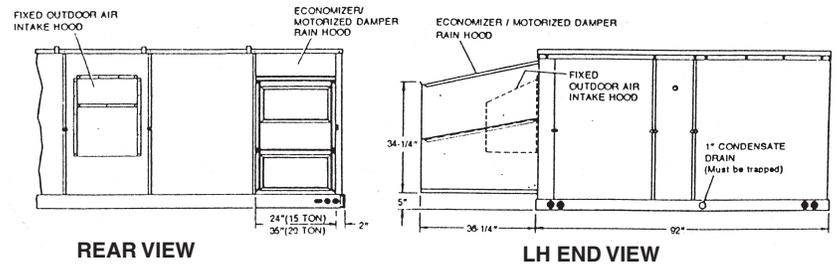
## UNIT DIMENSIONS



## 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 <sup>1</sup>	0"
Above Unit <sup>2</sup>	60" with 36" maximum Horizontal Overhang (For Condenser Air Discharge)

<sup>1</sup>Units (applicable in U.S.A. only) may be installed on combustible floors made from wood or class A, B or C roof covering material.  
<sup>2</sup>Units 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.

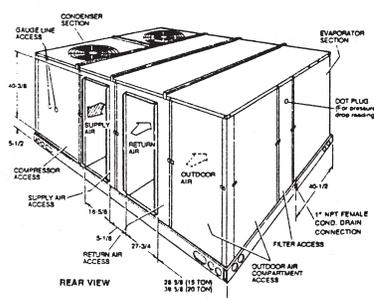
The products of combustion must not be allowed to accumulate within a confined space and recirculate.

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 Air Conditioners

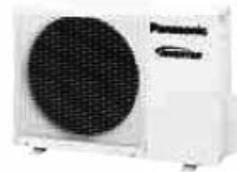
### Standard & Low Ambient Models

# Panasonic



**S9NKU-1/S9NKUA**  
**S12NKU-1/S12NKU**

**Indoor Unit**  
**CS-S9NKUW-1(A)**  
**CS-S12NKUW-1(A)**



**Outdoor Unit**  
**CU-S9NKU-1(A)**  
**CU-S12NKU-1(A)**



**S18NKU-1(A)**  
**S24NKU-1(A)**

**Indoor Unit**  
**CS-18NKU-1(A)**  
**CS-24NKU-1(A)**



**Outdoor Unit**      **Outdoor Unit**  
**CU-18NKU-1(A)**   **CU-24NKU-1(A)**

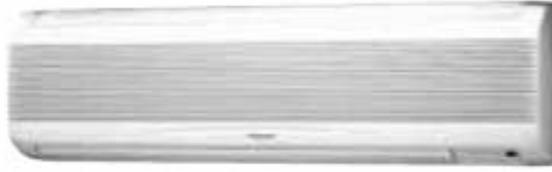
**R-410A**

Model No.			S9NKU-1/S9NKUA		S12NKU-1/S12NKUA		S18NKU-1/S18NKUA		S24NKU-1/S24NKUA		
Unit Model No.			Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	
			CS-S9NKU-1(A)	CU-S9NKU-1(A)	CS-S12NKU-1(A)	CU-S12NKU-1(A)	CS-S18NKU-1(A)	CU-S18NKU-1(A)	CS-S24NKU-1(A)	CU-S24NKU-1(A)	
<b>Performance &amp; Electrical Ratings</b>											
Capacity	Cooling	Btu/h	8,500(4,100-10,200)		12,000(4,100-13,300)		17,100		24,200		
	Heating	Btu/h	---		---		---		---		
Moisture Removal	High	Pints/H	3.4		2.5		---		---		
Dry Air Flow	Hi/Med/Low	CFM	395		425		---		---		
SEER	Cooling		21.0		20.0		18.0		17.5		
EER	Cooling		13.1		12.0		13.2		10.2		
HSPF	Heating		---		---		---		---		
COP	Heating		---		---		---		---		
Power Supply	V, Phase, Hz		230/208, 1PH, 60Hz		230V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz		
Running Amps	Cooling	A	3.1/3.5(-4.4)		4.7/5.2(-6.8)		5.95/6.60		10.75/11.90		
	Heating	A	---		---		---		---		
Power Input	Cooling	W	650(250-850)		1,000(250-1,150)		1,300		2,350		
	Heating	W	---		---		---		---		
Back-up Heater		kW	---		---		---		---		
Maximum Fuse Size Amps		A	15		15		20		20		
<b>Features</b>											
Controls			Microprocessor		Microprocessor		Microprocessor		Microprocessor		
Low Ambient Control			*A Model only		*A Model only		*A Model only		*A model only		
Wireless Remote Controller	Included		Included		Included		Included		Optional		
Wired Remote Controller			Optional		Optional		Optional		Optional		
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		Washable		Washable		Washable		
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)	dB-A	40/25/20		43/28/20		---		---		
	Outdoor(Hi)	dB-A	47		48		---		---		
Refrigerant Piping	Type		Flare Type		Flare Type		Flare Type		Flare Type		
	Discharge	inches	1/4" Discharge		1/4" Discharge		1/4" Discharge		1/4" Discharge		
	Suction	inches	3/8" Suction		1/2" Suction		1/2" Suction		5/8" Suction		
Refrigerant Pipe Length**		Ft.	Max. 66Ft		Max. 66Ft		Max. 100Ft		Max. 131Ft		
Elevation Difference	Outdoor Above	Ft.	Max. 49Ft		Max. 49Ft		Max. 49Ft		Max. 49Ft		
	Outdoor Below	Ft.	Max. 49Ft		Max. 49Ft		Max. 49Ft		Max. 49Ft		
<b>Dimensions &amp; Weight</b>											
Height		inches	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	
Width		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"	
Depth		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"	
Net Weight		Lbs.	8-1/16"	11-13/32"	8-1/16"	11-13/32"	9-9/32"	12-5/8"	9-9/32"	12-5/8"	
			20.0	82.0	20.0	82.0	26.0	115.0	26.0	117.0	

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

# Panasonic

## Wall-Mounted Air Conditioners



**26PSK1U6**

**Indoor Unit  
S-26PK1U6**



**Outdoor Unit  
U-26PS1U6**



**KS30NKUA  
KS36NKUA**

**Indoor Unit  
CS-KS30NKU  
CS-KS36NKU**



**Outdoor Unit  
CU-30NKUA  
CU-36NKUA**



Model No.			26PSK1U6		KS30NKUA		KS36NKUA	
Unit Model No.			Indoor Unit S-26PK1U6	Outdoor Unit U-26PS1U6	Indoor Unit CS-KS30NKU	Outdoor Unit CU-KS30NKUA	Indoor Unit CS-KS36NKU	Outdoor Unit CU-KS36NKUA
<b>Performance &amp; Electrical Ratings</b>								
Capacity	Cooling	Btu/h	25,200(9,500-25,200)		30,600(10,900-30,600)		34,000(10,900-34,000)	
	Heating	Btu/h	---		---		---	
Moisture Removal	High	Pints/H	8.1		9.57		10.64	
Dry Air Flow	Hi/Med/Low	CFM	559 / 475 / 390		630 / 530 / 412		630 / 530 / 412	
SEER	Cooling		14.9		16.0		16.0	
EER	Cooling		8.9		9.3		8.5	
HSPF	Heating		---		---		---	
COP	Heating		---		---		---	
Power Supply	V, Phase, Hz		230 / 208V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz		230 / 208V, 1PH, 60Hz	
Running Amps	Cooling	A	15.3 / 16.9		16.5 / 18		20 / 21.9	
	Heating	A	---		---		---	
Power Input	Cooling	W	2,840 / 2,840		3,290		4,000	
	Heating	W	---		---		---	
Back-up Heater		kW	---		---		---	
Maximum Fuse Size Amps		A	30		35		45	
<b>Features</b>								
Controls			Microprocessor		Microprocessor		Microprocessor	
Low Ambient Control			Built-in 0°F		Built-in 0°F		Built-in 0°F	
Wireless Remote Controller	Included		Included		Included			
Wired Remote Controller	Optional		Optional		Optional		Optional	
Fan Speeds			Hi / Me / Low & Auto		Hi / Me / Low & Auto		Hi / Me / Low & Auto	
Timer			On / Off / 24hr Program		1hr Off / 24hr Program		1hr Off / 24hr Program	
Air Deflection	Horizontal		Manual		Manual		Manual	
	Vertical		Automatic		Automatic		Automatic	
Air Filter			Washable		Washable		Washable	
Refrigerant			R-410A		R-410A		R-410A	
Refrigerant control			Electronic Expansion Valve		Electronic Expansion Valve		Electronic Expansion Valve	
Operation Sound	In(Hi/Me/Lo)	dB-A	48 / 42 / 38		49 / 44 / 39		49 / 44 / 39	
	Outdoor(Hi)	dB-A	49		55		55	
Refrigerant Piping	Type		Flare Type		Flare Type		Flare Type	
	Discharge	inches	3/8" Discharge		3/8" Discharge		3/8" Discharge	
	Suction	inches	5/8" Suction		5/8" Suction		5/8" Suction	
Refrigerant Pipe Length**		Ft.	Max. 165Ft		Max. 164Ft		Max. 164Ft	
Elevation Difference	Outdoor Above	Ft.	Max. 100Ft		Max. 100Ft		Max. 100Ft	
	Outdoor Below	Ft.	Max. 50Ft		Max. 50Ft		Max. 50Ft	
<b>Dimensions &amp; Weight</b>			Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit	Indoor Unit	Outdoor Unit
Height		inches	13"	30-23/32"	11-3/16"	35-13/16"	11-3/16"	30-23/32"
Width		inches	44-7/8"	37"	41-15/16"	37-1/3"	41-15/16"	37"
Depth		inches	8-31/32"	13-3/8"	9-1/16"	13-3/8"	9-1/16"	13-3/8"
Net Weight		Lbs.	40.0	128.0	32	183	32	183
<b>Approvals</b>								

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



# PTAC UNITS

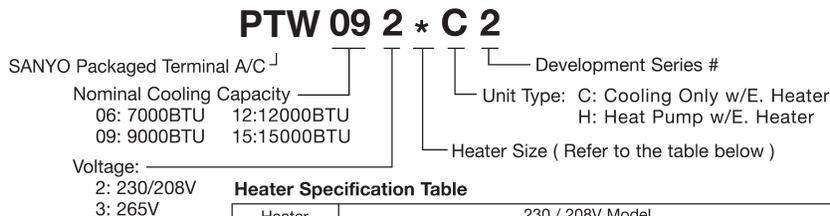
## PTW-Series

**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



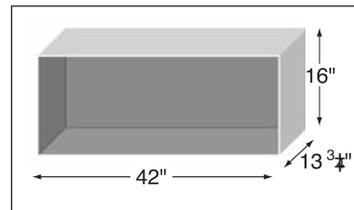
**MODEL IDENTIFICATION**



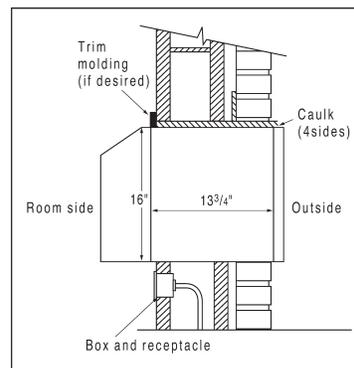
**Heater Specification Table**

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

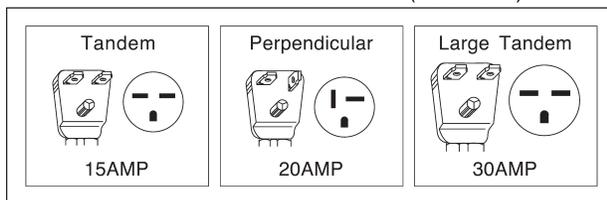
**WALL CASE DIMENSIONS**



**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

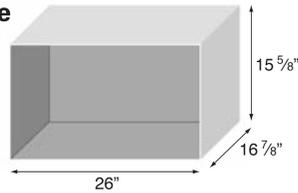
**PTB 06 2 3 C 1**

- 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

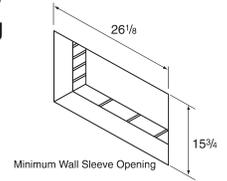


## Wall Sleeve Dimension

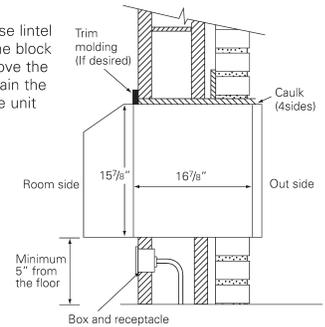


## Dimension of Wall Opening

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

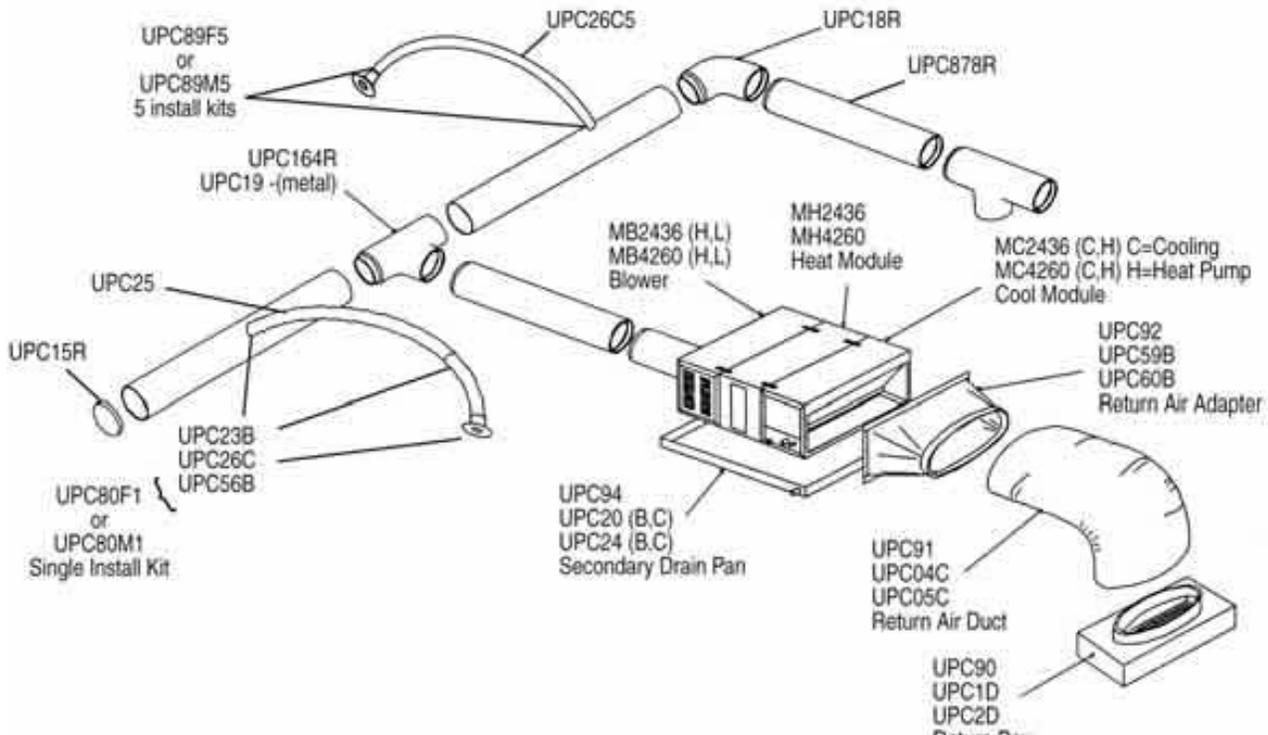


Be sure to use lintel to support the block and brick above the sleeve to retain the weight of the unit



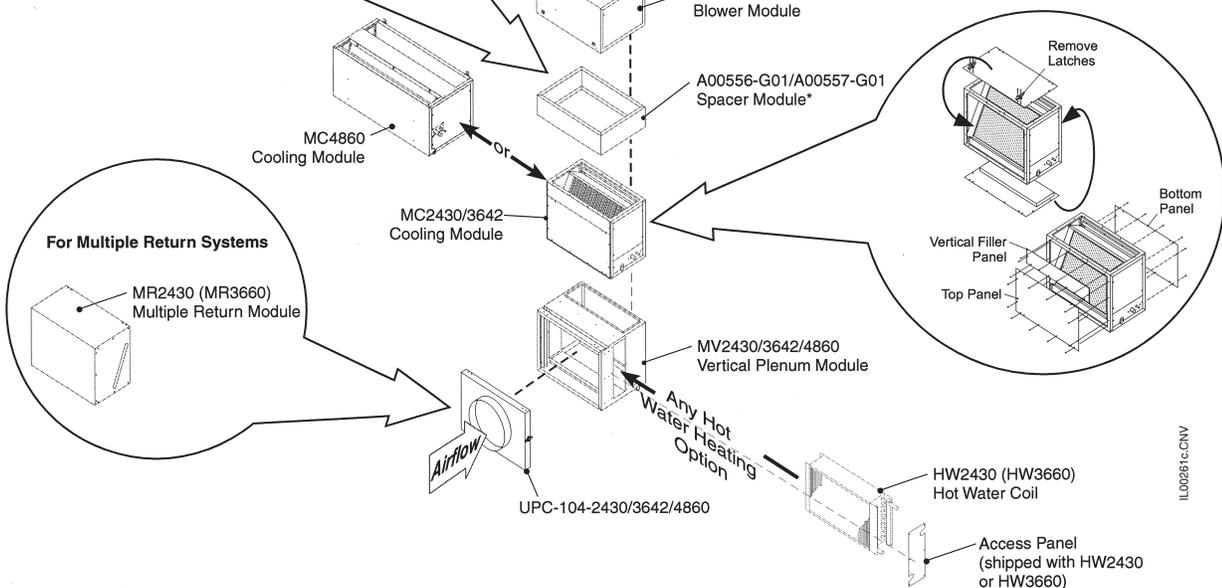
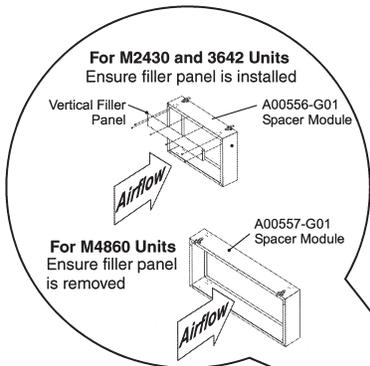
## SPECIFICATION

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
Dehumidication (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.



M1218AC

### 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.

Part No.	Usage	Voltage	Tonnage	CFM @ 1.5" ESP	Dimensions (In.)			Shipping Wgt.
					W	D	H	
M1218ACX,CB	AC, ECB	208-230/1/60	1 to 1 1/2	370	20	38	12	100
M1218HPX	Heat Pump	208-230/1/60	1 to 1 1/2	370	20	38	12	100
MB2430L	Blower	208-230/1/60	2 to 2 1/2	600	25	13.75	17.5	62
MB2430L+CB	Blower,ECB	208-230/1/60	2 to 2 1/2	600	25	13.75	17.5	62
MB2436H	Blower	208-230/1/60	2 to 2 1/2	600	25	13.75	17.5	62
MB3642L	Blower	208-230/1/60	3 to 3 1/2	1000	38	13.75	17.5	72
MB3642L+CB	Blower,ECB	208-230/1/60	3 to 3 1/2	1000	38	13.75	17.5	72
MB4260H	Blower	208-230/1/60	3 to 3 1/2	1000	38	13.75	17.5	72
MB4860L	Blower	208-230/1/60	4 to 5	1250	38	13.75	17.5	85
MB4860L+CB	Blower, ECB	208-230/1/60	4 to 5	1250	38	13.75	17.5	85
<b>ECM Motor, SMART Board</b>								
U1218L-1EC1EX	Blower	115/1/60	1 to 1 1/2	300, 1.2" ESP, 160W	20	38	12	100
U1218L-1EC2EX	Blower	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
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



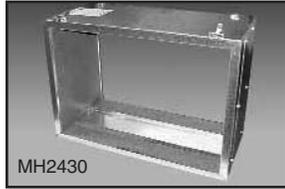
MC2430HX

### 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	
MC2430CX	Cooling, R410A	2 to 2 1/2	25	13.75	17.5	48
MC3642CX	Cooling, R410A	3 to 3 1/2	38	13.75	17.5	67
MC3642HX	Heat Pump, R410A	3 to 3 1/2	38	13.75	17.5	74
MC4860CX	Cooling, R410A	4 to 5	38	24	17.5	67
MC4860HX	Heat Pump, R410A	4 to 5	38	24	17.5	74
MC2430W	Chilled Water Cooling Module	2 to 2-1/2	25	13.75	17.5	62
MC4860W	Chilled Water Cooling Module	4 TO 5	38	18	17.5	105

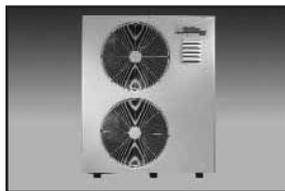


**HEATING MODULE**

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
UCHR06041C2	60000	208-230/1/60	R407C	37.5	18.9	45.75	410



**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

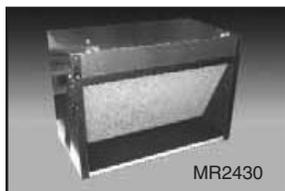


**VERTICAL RETURN PLENUM**

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
MV2430	2 to 2 1/2	25	17.5	18.25
MV3642	3 to 3 1/2	38	17.5	18.25
MV4860	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



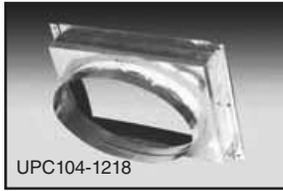
UPC01-1218

**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
UPC01-3642	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.

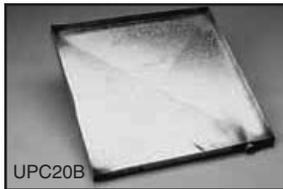
Part No.	Usage	Width (In.)	Duct Dia. (In.)
UPC104-1218	1218	20	12
UPC104-2430	2430	25	14
UPC104-3642	3642	38	18
UPC104-4860	4860	38	20



### SUPPLY AIR PLENUM ADAPTER

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

Part No.	Usage	Diameter (In.)	Length (In.)
UPC611218	1218	7	12
UPC612430	2430	7	12
UPC613642	3642	9	18
UPC614860	4860	10	18



### SECONDARY DRAIN PAN

- For added protection against condensate drainage

Part No.	Usage	Modules	Dimensions (In.)		
			L	W	H
UPC94	1218	1	40	22	1.5
UPC20B	2430	2	29.5	27	1.5
UPC20C	2430	3	41.75	27	1.5
UPC24B	3642	2	29.5	40	1.5
UPC24C	3642/4860	3	41.75	40	1.5
UPC24D	4860	3	50	40	1.5

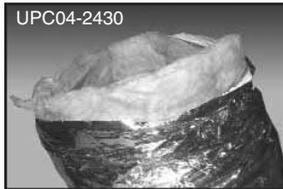


### PLENUM ADAPTER, SQUARE

Includes:

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

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



### RETURN AIR DUCT

- 10 Ft

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



### SUPPLY DUCT

1" rigid fiberglass

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

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



### FULL FLOW TEE

1" fiberglass

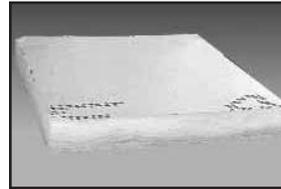
Part No.	Description
SQ7x7x7	Square, 6.5" x 6.5", with Turning Vane
SQ9x9x9	Square, 8.5" x 8.5", with Turning Vane
SQ10x10x10	Square, 9.5" x 9.5", with Turning Vane
UPC19	Metal Reducing Tee 9" x 7" x 7" w/TV



**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



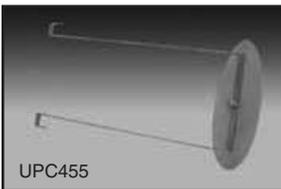
**SLOTTED OUTLET**

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



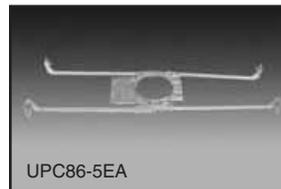
**SUPPLY TERMINATOR**

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

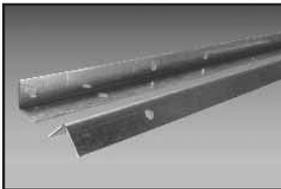
Part No.	Includes above plus
UPC86	Plaster Frame Kit, pkg. 5



#### 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

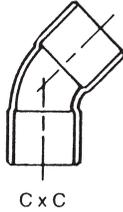


#### EXPANSION VALVE, R410A

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"



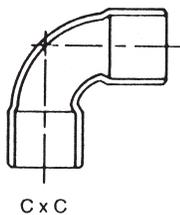
**ELBOWS, 45°**  
NO. WE-505, FTG x C

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"

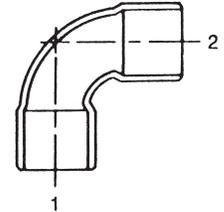


**ELBOWS 90° LONG RADIUS**  
NO. WE-500L, C x C

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"	



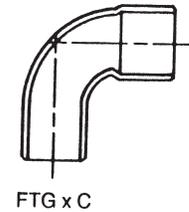
\* CAST BRONZE

**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

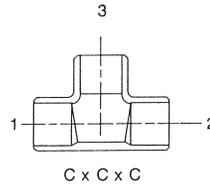
PART #	SIZE NOMINAL	SIZE O.D.
W2312	1/4"	3/8"
W2321	3/8"	1/2"
W1652	1/2"	5/8"
W2330	5/8"	3/4"
W1654	3/4"	7/8"
W2344	1"	1-1/8"
W2384	1-1/4"	1-3/8"
W2385	1-1/2"	1-5/8"
W2386	2"	2-1/8"
W2387	2-1/2"	2-5/8"
W2388	3"	3-1/8"
W2390	4"	4-1/8"



**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

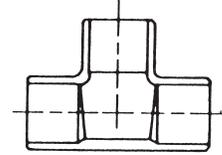
PART #	SIZE NOMINAL			SIZE O.D.		
	1	2	3	1	2	3
W40368	1/8	x 1/8	x 1/4	1/4	x 1/4	x 3/8
W4016	1/4	x 1/4	x 1/2	3/8	x 3/8	x 5/8
W4005			x 3/8			x 1/2
W40324			x 1/8			x 1/4
W40330		1/8	x 1/4		1/4	x 3/8
W40332			x 1/8			x 1/4
W4015	3/8	x 3/8	x 1/2	1/2	x 1/2	x 5/8
W4002			x 1/4			x 3/8
W40350			x 1/8			x 1/4
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**

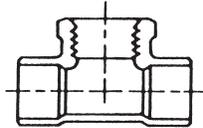
PART #	SIZE NOMINAL	SIZE O.D.
W40306	1/8"	1/4"
W40313	--	5/16"
W4000	1/4"	3/8"
W4001	3/8"	1/2"
W4006	1/2"	5/8"
W4017	5/8"	3/4"
W4031	3/4"	7/8"

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"



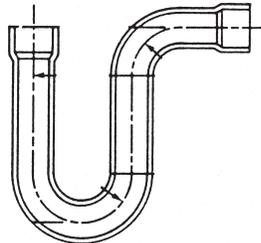
**TEES, FORGED BRASS  
NO. WT-602 CxCxF**

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...

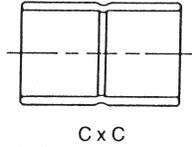
**CALL US**

We have it or can get it

**COUPLINGS**

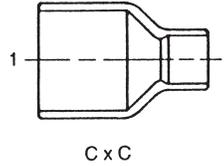
**COUPLINGS, ROLLED STOP**  
NO. WC-400, C x C

PART #	SIZE NOMINAL	SIZE O.D.
W1000	--	1/8"
W1001	--	3/16"
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"



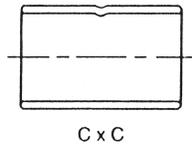
**COUPLINGS, REDUCING**  
NO. WC-400R, C X C

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	



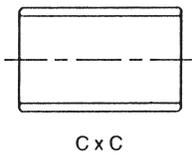
**COUPLINGS, STAKED STOP**  
NO. WC-400S, C X C

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



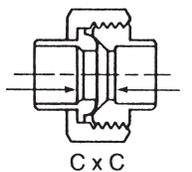
**COUPLINGS, NO STOP**  
NO. WC-400NS, C x C

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"



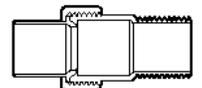
**COUPLINGS, UNION**  
NO. WC-407, C x C

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

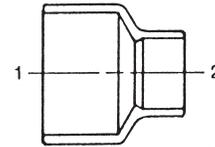
**BUSHINGS**

**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



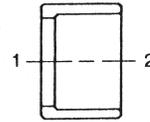
FTG x C

**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

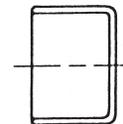
**CAPS**

**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"



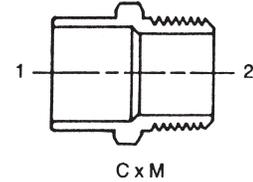
C

**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

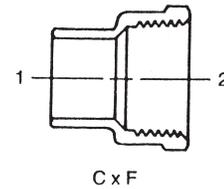
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1147	3/4	x 1/2	7/8	x 1/2
W1162	1	x 1-1/4	1-1/8	x 1-1/4
W1163		x 1		x 1
W1164		x 3/4		x 3/4
W1165		x 1/2		x 1/2
W1170	1-1/4	x 1-1/2	1-3/8	x 1-1/2
W1171		x 1-1/4		x 1-1/4
W1172		x 1		x 1
W1179	1-1/2	x 1-1/2	1-5/8	x 1-1/2
W1180		x 1-1/4		x 1-1/4
W1187	2	x 2	2-1/8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

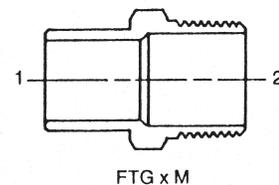
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1246	3/4	x 3/4	7/8	x 3/4
W1247		x 1/2		x 1/2
W1263	1	x 1	1-1/8	x 1
W1264		x 3/4		x 3/4
W1265		x 1/2		x 1/2
W1270	1-1/4	x 1-1/2	1-3/8	x 1-1/2
W1271		x 1-1/4		x 1-1/4
W1272		x 1		x 1
W1278	1-1/2	x 2	1-5/8	x 2
W1279		x 1-1/2		x 1-1/2
W1287	2	x 2	2-1/8	x 2
W1296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



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

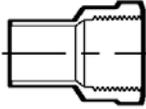
PART #	SIZE NOMINAL		SIZE O.D.	
	1	2	1	2
W1425	3/8	x 3/8	1/2	x 3/8
W1431	1/2	x 1/2	5/8	x 1/2
W1432		x 3/8		x 3/8
W1446	3/4	x 3/4	7/8	x 3/4

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**

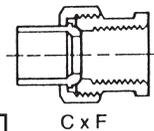
**FITTING**  
WC-405, FTG x FPT



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

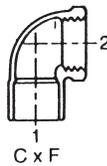


PART # *	SIZE NOMINAL	SIZE O.D.
A11422	1/2"	5/8"
A11423	3/4"	7/8"
A11424	1"	1-1/8"
A11425	1-1/4"	1-3/8"
A11426	1-1/2"	1-5/8"

\*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

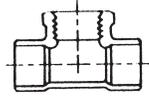
**HIGH EAR ELBOW - 90°**,  
E-211HE, C x FPT

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

\*CAST BRONZE

**TEES**

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

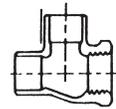


PART # *	SIZE NOMINAL	SIZE O.D.
A1512	1/2 x 1/2 x 1/2	5/8 x 5/8 x 1/2
A1538	3/4 x 3/4 x 3/4	7/8 x 7/8 x 3/4
A1539	x 1/2	x 1/2
A2655	1-1/4 x 1-1/4 x 1	1-3/8 x 1-3/8 x 1
A1644	1-1/2 x 1-1/2 x 1-1/2	1-5/8 x 1-5/8 x 1-1/2
A3663	x 1-1/4	x 1-1/4
A2688	x 1	x 1
A2673	x 3/4	x 3/4
A2703	2 x 2 x 1	2-1/8 x 2-1/8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

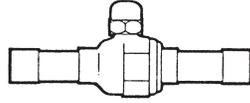
\*CAST BRONZE

**COMPRESSOR VALVES**

**BALL VALVES**

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

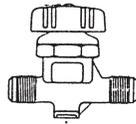
PART #	SIZE O.D.
904203	3/8"
904204	1/2"
904205	5/8"
904307	7/8"
905409	1-1/8"
904511	1-3/8"
905613	1-5/8"
905717	2-1/8"



**PACKLESS LINE VALVES**

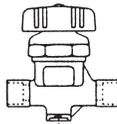
FLARE TO FLARE, TYPE I, CLASS IV

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



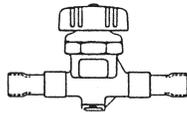
**SOLDER TO SOLDER, TYPE I, CLASS II**

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



**EXTENDED END, TYPE I, CLASS II**

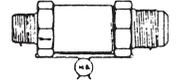
PART #	SIZE O.D.
A14848	1/4"
A14850	3/8"



**PRESSURE RELIEF VALVES**

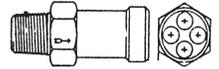
**MPT INLET TO FLARE**

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



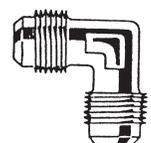
**FLARE PLUG**

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



**FLARE UNION ELBOW**

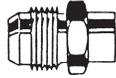
PART #	TUBE - OD
55C	1/4
55E	3/8



**FLARED BRASS TUBE FITTINGS**

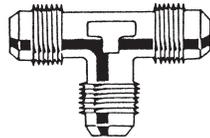
**SOLDER CONNECTOR**  
FLARE x SOLDER TUBE

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



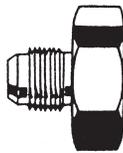
**FLARE TEE**

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



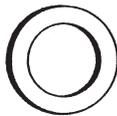
**DRUM CONNECTOR**

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



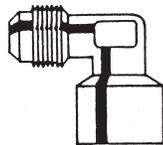
**GASKET**

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



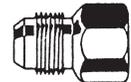
**FEMALE FLARE CONNECTOR**

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



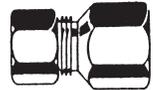
### MALE CONNECTOR

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



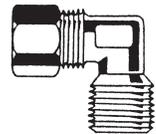
### FEMALE CONNECTOR

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



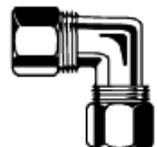
### MALE ELBOW

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

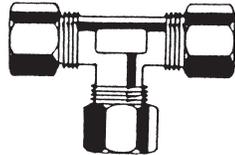
PART #	TUBE - OD
65C	1/4



**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



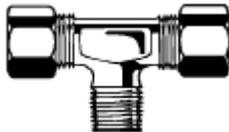
\*HEAVY

**REDUCING TEE**

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

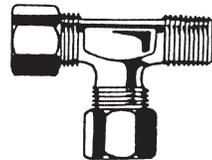
**W/MPT**

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"



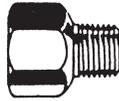
1/4" DIA.

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

### REDUCING ADAPTOR

FPT x MPT

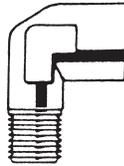
PART #	SIZE
120RFE	1/2 x 3/8



### 90° STREET ELBOW

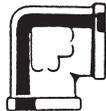
FPT x MPT

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



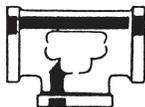
### 90° ELBOW

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



### TEE

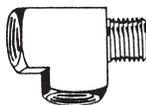
PART #	SIZE / FPT
101CX	1/4"



### TEE

FPT x MPT x FPT

PART #	SIZE
127C	1/4"

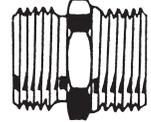


## BRASS GARDEN HOSE FITTINGS

### CONNECTOR

MALE HOSE x MPT

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

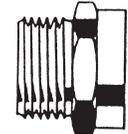


\*TAPPED UNDER MPT END.

### CONNECTOR

MALE HOSE x FPT

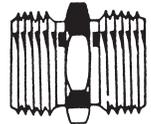
PART #	SIZE
746JJ	3/4"



### 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

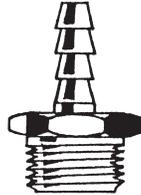
PART #	SIZE
700G	3/4"



**HOSE x MULTI BARB BRASS FITTINGS**

**HOSE BARB x MALE HOSE**

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



**HOSE BARB x MPT**

PART #	HOSE ID	x	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**

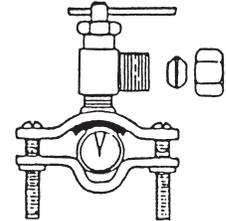
PART #	HOSE ID	x	MALE PIPE
NY220F	1/2	x	3/8
NY220FF	1/2	x	1/2



**BRASS NEEDLE VALVES FOR  
COMPRESSION TUBING**

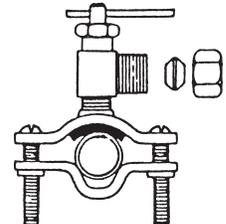
**SELF PIERCING NEEDLE  
VALVE AND SADDLE CLAMP**

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



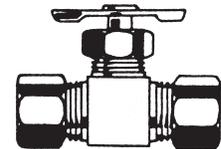
**NEEDLE VALVE AND  
SADDLE CLAMP**

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



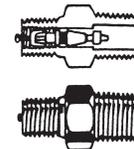
**NEEDLE VALVE  
COMPRESSION TUBE BOTH ENDS**

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

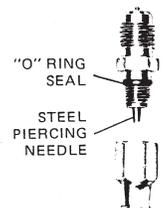
Threading wing cap on the depressor pin pierces the line. When the wing cap is removed, the valve closes, the line is pierced and ready for the connection of the charging hose.



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



AV2456



AV34



AVU44



AVX2



AVT-4



AVS-44



AVW-14

## 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
SPP6	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

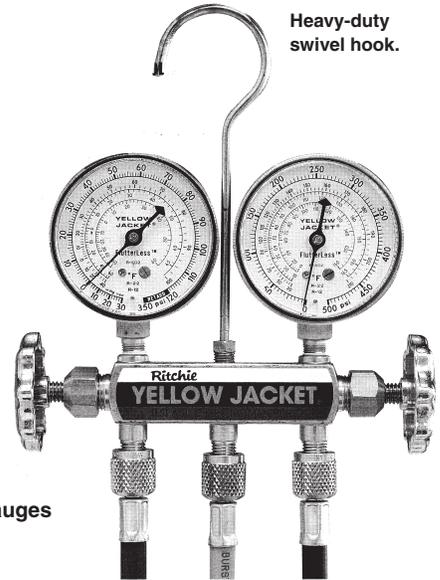
**Bold easy-to-read gauges.** Large bold numbers and colored scales are easy to read. Removable Lexan® crystals resist breakage. Standard gauge cases are color-coded red and blue. Brass and chrome are also available.

**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.



Heavy-duty swivel hook.

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

Description	R-22 R-410 R-502	Gauge Scales	Part # No Hose	Part# w/ Hoses
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.

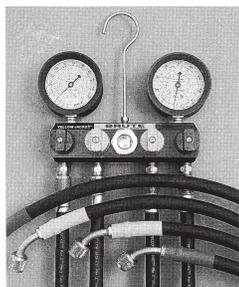
Manifold dials feature R-12, R-502 and R-22 scales. New HFC refrigerant gauges for R-134a, R-507 and R-404A are available. Compound gauges feature over pressure protection to 350 pounds. 1/8" MPT lower mount fitting. Solid brass and chrome-plated brass gauges provide additional features:

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



UPC#	Fig.	Description
<b>CFC &amp; HCFC R-12, R-502, R-22</b>		
49101	1	Red pressure 0-500° F
49102	2	Blue pressure 30-0-120 °F
49011	1	Brass pressure 0-500 °F
<b>R-410A</b>		
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

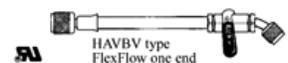


Slim, compact tool easily checks humidity. One piece unit with self-contained housing fits into your pocket.

- 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.

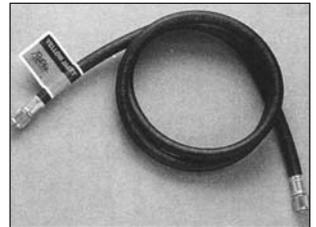


L	"C" 1/2" fl. x 1/2" fl.
60"	#15860 C-60"

#### 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.



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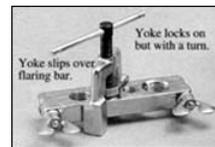
### FLARING/CUTTING KITS



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

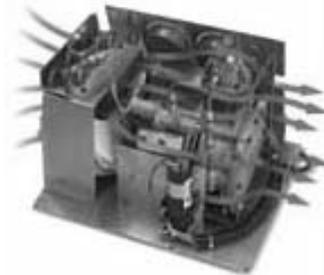


## REFRIGERATION RECOVERY

### 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"
SLD8-4V	1/2" FLARE	8	17.25	5.38"	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"
SLD27-7SV	7/8" SWEAT	27	49	7-25/32"	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
K4067-01	P485-P4813
K4607-02	P967-P9613
K4067-03	P1449-P14411
K4067-04	P19211-P19213



## SIGHT-GLASS MOISTURE INDICATOR

PART#	FITTING SIZE	LENGTH / IN.
LDE2MF	1/4" M/F FLARE	3.05
LDE3	3/8" MALE FLARE	3.56
PSG4MF	1/2" M/F FLARE	3.39
PSG5MF	5/8" M/F FLARE	3.69
PSG2S	1/4" SWEAT	4.88
LDE3S	3/8" SWEAT	4.88
LDE4S	1/2" SWEAT	4.88
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

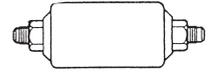
## LIQUID LINE FILTER DRYERS

### • 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

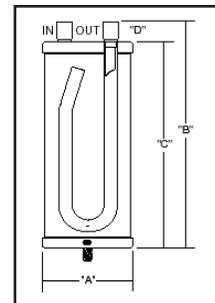


PART #	SAE FLARE	LENGTH/ INCHES	DIAMETER/ INCHES
AH032	1/4	4-1/8	1-11/16
AH052	1/4	4-3/4	2-1/2
AH053	3/8	5-3/16	2-1/2
AH083	3/8	6-1/16	2-1/2
AH162	1/4	6-15/16	2-1/2
AH163	3/8	6-3/4	2-1/2
AH164	1/2	7	2-1/2
AH305	5/8	10-3/16	3

## 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																		
75°F	125°F	75°F	125°F	75°F	125°F	R-12	R-22	R-502	R-12	R-22	R-502	R-12	R-22	R-502	R-12	R-22	R-502																		
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								34	206.0	187.0										190.0	176.0	181.0	165.0	2.3	3.1	2.0	1	1-1/2	3/4	1-1/2	2	1-1/2	1	2	1
162S	2.5	3.4	2.2																																
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

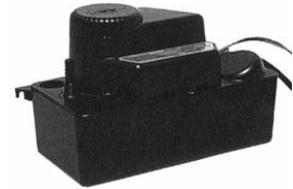
The LCU series is one of Liberty Pumps units most reliable units. Applications include High Efficiency furnaces and any other application that requires condensate removal. Units include a high impact polystyrene tank with a capacity of 2 U.S. quarts. **3 Year Warranty.**



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 H<sub>2</sub>O. 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 <sub>2</sub> 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		

**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.	
CAT. NO.	RANGE
TL25-015	0-15 PSI
TL25-030	0-30 PSI
TL25-060	0-60 PSI
TL25-100	0-100 PSI
TL25-100MR	LAZY HAND
TL25-160	0-160 PSI
TL25-200	0-200 PSI
TL25-200MR	LAZY HAND
TL25-300	0-300 PSI
TL25-VAC	-30-0 VAC
TL25P30-CBM	0-30 PSI

3-1/2" DIAL 1/4" NPT LOWER CONN.	
CAT. NO.	RANGE
TL35-015	0-15 PSI
TL35-030	0-30 PSI
TL350-30-CBM	0-30 Ctr Btm Mt
TL35-060	0-60 PSI
TL35-100	0-100 PSI
TL35-160	0-160 PSI
TL35-300	0-300 PSI
TL35VP-30-0-30	-30-0-30 PSI

4-1/2" DIAL 1/4" NPT LOWER CONN.	
CAT. NO.	RANGE
TL45-015	0-15PSI
TL45-030	0-30 PSI
TL45-060	0-60 PSI
TL45-100	0-100 PSI
TL45-160	0-160 PSI
TL45-300	0-300 PSI
TL45-VAC	-30-0 VAC
TL45VP-30-0-30	-30-0-30 PSI

**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



## 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.

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.



#430009



#430099  
Injection Valve