

ELITE 10™
PACKAGED GAS UNITS

***23,200 to 58,000 Btuh (6.8 to 17.0 kW) Cooling Capacity**
50,000 to 150,000 Btuh (14.7 to 44.0 kW) Input Heating Capacity

*ARI Certified Ratings

GCS29
(2 To 5 Ton)
(7.0 To 17.6 kW)

Bulletin No. 210103
October 1997
Supersedes November 1996



FEATURES

Applications

- Designed for outdoor installations at ground level or rooftop for residential applications.

Approvals

- Units are design certified and ratings certified by E.T.L. and E.T.L. Canada.
- Heating ratings are according to Department of Energy (DOE) test procedures and Federal Trade Commission (FTC) labeling regulations.
- "X" suffix models meet California Nitrogen Oxides (NO_x) standards and California Seasonal Efficiency requirements.
- Cooling system rated according to DOE test procedures.
- Cooling system rated in accordance with ARI standard 210/240-94.
- Units are listed by E.T.L. for U.S. and Canada.
- Packaged unit and components within bonded for grounding to meet safety standards required by E.T.L.
- Developed in accordance with ISO 9001 quality standards.
- Each unit test operated at the factory before shipment ensuring dependable operation at start-up.

Equipment Warranty

- Heat Exchanger -- 10 year limited warranty.
- Compressor -- 5 year limited warranty.
- Parts -- 5 year limited warranty on all covered components.
- Refer to warranty certificate included with unit for specific details.

Heat Exchanger

- Aluminized steel tapered S-curve for superior resistance to corrosion and oxidation.
- Crimped no-weld construction for longer life.
- Compact design reduces space requirements in unit cabinet.
- Heat exchanger has been laboratory life cycle tested.

Inshot Burners

- Aluminized steel inshot burners provide efficient trouble free operation.
- Burner venturi mixes air and gas in correct proportion for proper combustion.
- Burner assembly is removeable from the unit as a single component for ease of service and each burner may be removed individually.

Induced Draft Blower

- Heavy duty induced draft blower prepurges heat exchanger and safely vents flue products.
- Blower is controlled by the integrated blower control /ignition control board.
- Pressure switch proves blower operation before allowing gas valve to open.
- Induced draft blower operates only during heating cycle.

Heating Control

- Solid-state integrated blower control / ignition control board with L.E.D. diagnostics.

Limit Controls

- Factory installed and accurately located
- Provide protection from abnormal operating conditions.

Refrigeration System

- External service gauge ports.

Compressor

- Heavy duty, high efficiency reciprocating compressor. Scroll compressor on -048 and -060 models.
- Overload protected.
- Running gear spring mounted within sealed housing (except -048, -060 models).
- Resiliently mounted on rubber mounts.
- Compressor cover reduces operating sound levels.

Evaporator and Condenser Coils

- Copper tube with enhanced fin coils.

Condenser Fan

- Weather protected heavy duty condenser fan motor with aluminum fan for long life.
- Totally enclosed motor.

Cabinet

- Low Profile
- Compact footprint
- Fully insulated to minimize heat loss.
- Powder paint for maximum durability.
- Easy service access.
- Coil guard furnished.
- One piece "no leak" top design
- Interchangeable panel for horizontal to down-flow airflow conversion (shipped for horizontal).

Supply Air Blower

- Insulated compartment to reduce sound.
- Easy service split ring design with quick plug-in wiring.
- Multi-speed motor for wide airflow range.
- PSC pre-lubricated motor for low maintenance and maximum efficiency.
- Dynamically balanced blower with resilient motor mounts for smooth and quiet operation.

Controls

- Two pole contactor for increased reliability.
- Trade available components.
- Color coded wiring for easy service.

Air Filters (Required)

- Not furnished must be field provided.
- Filter rack furnished.

OPTIONAL ACCESSORIES - Must Be Ordered Extra

Thermostat (Optional)

- Not furnished must be ordered extra.

Accessories (Optional)

- Timed-Off Control (5 minutes)
- LPG/Propane Conversion Kit
- High Pressure Switch Kit (Auto-Reset)
- Low Ambient Kit

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 4500 feet (1372 m) above sea level without any modification. At altitudes above 4500 feet (1372 m), units must be derated 4% for every 1000 feet (470 m) above 4500 feet (1372 m). (Example - At an altitude of 6500 feet (1981 m) the unit would require a derate of 8%.)

NOTE — This is the only permissible derate for these units.

SPECIFICATIONS

Model No.		GCS29-024-50 GCS29X-024-50	GCS29-024-75 GCS29X-024-75	GCS29-030-75 GCS29X-030-75	GCS29-036-50 GCS29X-036-50	GCS29-036-75 GCS29X-036-75	
Heating capacity input— Btuh (kW)		50,000 (14.7)	75,000 (22.0)	75,000 (22.0)	50,000 (14.7)	75,000 (22.0)	
Heating capacity output— Btuh (kW)		40,000 (11.7)	60,000 (17.6)	60,000 (17.6)	40,000 (11.7)	60,000 (17.6)	
☐ A.F.U.E.		80.0%					
Temperature Rise - °F (°C)		30-60 (17-33)	45-75 (25-42)				
Gas Supply Connections fpt - in. (mm)		1/2 (13)					
Recommended Gas Supply Pressure - in. w.g. (Pa)		7 (1.7) Natural Gas, 11 (2.7) LPG/Propane					
☑ ARI Standard 210/240 Ratings	Total cooling capacity - Btuh (kW)	23,400 (6.9)		29,000 (8.5)	35,000 (10.3)		
	Total unit watts	2540		3150	3850		
	SEER (Btuh/Watt)	10.00					
	EER (Btuh/Watt)	9.2			9.1		
Sound Rating Number (db)		76			80		
Refrigerant Charge (HCFC-22)		3 lbs. 4 oz. (1.47 kg)		3 lbs. 3 oz. (1.45 kg)	3 lbs. 10 oz. (1.64 kg)		
Evaporator Blower	Blower wheel size dia. x width in. (mm)	10 x 8 (254 x 203)					
	Motor horsepower (W)	1/2 (373)					
Evaporator Coil	Net face area - sq. ft. (m ²)	3.6 (0.33)					
	Tube diameter - in. (mm) & No. of rows	3/8 (9.5) - 2			3/8 (9.5) - 3		
	Fins per inch (m)	14 (551)					
Condenser Coil	Net face area - sq. ft. (m ²)	9.3 (0.86)		10.3 (0.96)			
	Tube diameter - in. (mm) & No. of rows	5/16 (8) - 1		3/8 (9.5) - 1			
	Fins per inch (m)	18 (709)					
Condenser Coil Fan	Diameter - in. (mm) & No. of blades	18 (457) - 3		18 (457) - 4			
	Air Volume - cfm (L/s)	2100 (990)			2300 (1085)		
	Motor horsepower (W)	1/8 (93)			1/4 (187)		
	Motor watts	170			250		
Condensate drain size fpt - in. (mm)		(1) 3/4 (19)					
☑ No. & size of filters - in. (mm)		(1) 24 x 25 x 1 (610 x 635 x 25)					
Net weight of basic unit - lbs. (kg)		280 (127)	290 (132)	300 (136)	350 (159)	320 (145)	
Shipping weight of basic unit - lbs. (kg) (1 Package)		295 (134)	305 (138)	315 (143)	365 (166)	335 (152)	
Electrical characteristics (60 hz)		208/230v - 1 ph - 60 hz					
Optional Accessories - Must Be Ordered Extra							
LPG/Propane Kit		42K91					
Low Ambient Control Kit		42K88					
Timed-Off Control		42K90					
High Pressure Switch		42K89					

☐ Annual Fuel Utilization Efficiency based on U.S. DOE test procedures and FTC labeling regulations.

☑ Rated in accordance with ARI Standard 210/240; 95 °F (35 °C) outdoor air temperature, 80 °F (27 °C) db / 67 °F (19 °C) wb entering evaporator air.

☑ Filters are not furnished and must be field provided.

SPECIFICATIONS

Model No.		GCS29-036-100 GCS29X-036-100	GCS29-042-75 GCS29X-042-75	GCS29-042-100 GCS29X-042-100	GCS29-048-100 GCS29X-048-100	GCS29-048-125 GCS29X-048-125
Heating capacity input– Btuh (kW)		100,000 (29.3)	75,000 (22.0)	100,000 (29.3)	100,000 (29.3)	125,000 (36.6)
Heating capacity output– Btuh (kW)		80,000 (23.4)	60,000 (17.6)	80,000 (23.4)	80,000 (23.4)	100,000 (29.3)
① A.F.U.E.		80.0%				
Temperature Rise – °F (°C)		55–85 (31–47)	45–75 (14–30)	55–85 (31–47)	40–70 (22–39)	45–75 (14–30)
Gas Supply Connections fpt – in. (mm)		1/2 (13)				
Recommended Gas Supply Pressure – in. w.g. (Pa)		7 (1.7) Natural Gas, 11 (2.7) LPG/Propane				
② ARI Standard 210/240 Ratings	Total cooling capacity – Btuh (kW)	35,000 (10.3)	41,000 (12.0)		47,000 (13.8)	
	Total unit watts	3850	4460		5050	
	SEER (Btuh/Watt)	10.00				
	EER (Btuh/Watt)	9.1	9.2		9.3	
Sound Rating Number (db)		80				
Refrigerant Charge (HCFC–22)		3 lbs. 10 oz. (1.64 kg)	4 lbs. 9 oz. (2.07 kg)		5 lbs. 13 oz. (2.64 kg)	
Evaporator Blower	Blower wheel size dia. x width in. (mm)	10 x 8 (254 x 203)	10 x 9 (254 x 229)		12 x 10 (305 x 254)	
	Motor horsepower (W)	1/2 (373)	1 (746)			
Evaporator Coil	Net face area – sq. ft. (m ²)	3.6 (0.33)	4.2 (0.39)		6.1 (0.57)	
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 3				
	Fins per inch (m)	14 (551)			15 (591)	
Condenser Coil	Net face area – sq. ft. (m ²)	10.3 (0.96)			15.4 (1.43)	
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 1				
	Fins per inch (m)	18 (709)				
Condenser Coil Fan	Diameter – in. (mm) & No. of blades	18 (457) – 4			20 (508) – 4	
	Air Volume – cfm (L/s)	2300 (1085)			3000 (1415)	
	Motor horsepower (W)	1/4 (187)				
	Motor watts	250			325	
Condensate drain size fpt – in. (mm)		(1) 3/4 (19)				
③ No. & size of filters – in. (mm)		(1) 24 x 25 x 1 (610 x 635 x 25)	(1) 28 x 25 x 1 (711 x 635 x 25)		(1) 30 x 30 x 1 (762 x 762 x 25)	
Net weight of basic unit – lbs. (kg)		330 (150)	350 (158)	360 (163)	410 (186)	430 (195)
Shipping weight of basic unit – lbs. (kg) (1 Package)		345 (156)	365 (166)	375 (170)	425 (193)	445 (202)
Electrical characteristics		208/230v–1ph–60hz				
Optional Accessories – Must Be Ordered Extra						
LPG/Propane Kit		42K91				
Low Ambient Control Kit		42K88				
Timed-Off Control		42K90				
High Pressure Switch		42K89				

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② Rated in accordance with ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air.

③ Filters are not furnished and must be field provided.

SPECIFICATIONS

Model No.		GCS29-048-150 GCS29X-048-150	GCS29-060-100 GCS29X-060-100	GCS29-060-125 GCS29X-060-125	GCS29-060-150 GCS29X-060-150
Heating capacity input– Btuh (kW)		150,000 (44.0)	100,000 (29.3)	125,000 (36.6)	150,000 (44.0)
Heating capacity output– Btuh (kW)		120,000 (35.2)	80,000 (23.4)	100,000 (29.3)	120,000 (35.2)
☐ A.F.U.E.		80.0%			
Temperature Rise – °F (°C)		60–90 (33–50)	40–70 (22–39)	45–75 (14–30)	60–90 (33–50)
Gas Supply Connections fpt – in. (mm)		1/2 (13)			
Recommended Gas Supply Pressure – in. w.g. (Pa)		7 (1.7) Natural Gas, 11 (2.7) LPG/Propane			
☑ ARI Standard 210/240 Ratings	Total cooling capacity – Btuh (kW)	47,000 (13.8)	58,000 (17.0)		
	Total unit watts	5050	6445		
	SEER (Btuh/Watt)	10.00			
	EER (Btuh/Watt)	9.3	9.0		
Sound Rating Number (db)		80			
Refrigerant Charge (HCFC–22)		5 lbs. 13 oz. (2.64 kg)	6 lbs. 14 oz. (3.12 kg)		
Evaporator Blower	Blower wheel size dia. x width in. (mm)	12 x 10 (305 x 254)			
	Motor horsepower (W)	1 (746)	.9 (671)		
Evaporator Coil	Net face area – sq. ft. (m ²)	6.1 (0.57)			
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 3			
	Fins per inch (m)	15 (591)			
Condenser Coil	Net face area – sq. ft. (m ²)	15.4 (1.43)	17.5 (1.63)		
	Tube diameter – in. (mm) & No. of rows	3/8 (9.5) – 1			
	Fins per inch (m)	18 (709)			
Condenser Coil Fan	Diameter – in. (mm) & No. of blades	20 (508) – 4			
	Air Volume – cfm (L/s)	3000 (1415)			
	Motor horsepower (W)	1/4 (187)			
	Motor watts	325			
Condensate drain size fpt – in. (mm)		(1) 3/4 (19)			
☑ No. & size of filters – in. (mm)		(1) 30 x 30 x 1 (762 x 762 x 25)			
Net weight of basic unit – lbs. (kg)		440 (200)	450 (204)	460 (209)	470 (213)
Shipping weight of basic unit – lbs. (kg) (1 Package)		455 (206)	465 (211)	475 (215)	485 (220)
Electrical characteristics		208/230v–1ph–60hz			
Optional Accessories – Must Be Ordered Extra					
LPG/Propane Kit		42K91			
Low Ambient Control Kit		42K88			
Timed-Off Control		42K90			
High Pressure Switch		42K89			

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☑ Rated in accordance with ARI Standard 210/240; 95 °F (35 °C) outdoor air temperature, 80 °F (27 °C) db / 67 °F (19 °C) wb entering evaporator air.

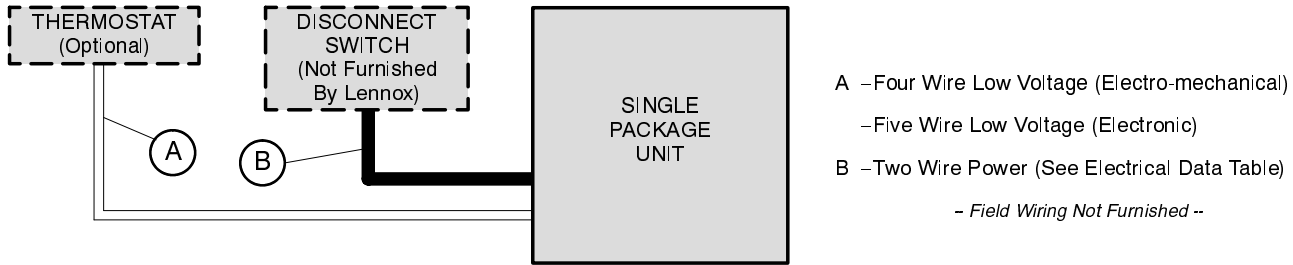
☑ Filters are not furnished and must be field provided.

ELECTRICAL DATA

Model No.		GCS29-024	GCS29-030	GCS29-036	GCS29-042	GCS29-048	GCS29-060
Line voltage data – 60hz 1 phase		208/230v					
Compressor	Rated load amps	10.5	13.7	16.4	17.2	21.8	25.0
	Locked rotor amps	56	76.1	96	105	116	170
Condenser Coil Fan Motor	Full load amps	0.9		1.8			
	Locked rotor amps	1.7		3.8			
Evaporator Coil Blower Motor	Full load amps	2.6			3.4	5.0	
	Locked rotor amps	5.5			8.3	10.9	
2 Recommended maximum fuse size or circuit breaker size (amps)		25	30		35	40	45
1 Minimum Circuit Ampacity		16.6	20.8	24.9	26.7	34.1	38.1
Unit power factor		.98	.99	.95		.98	

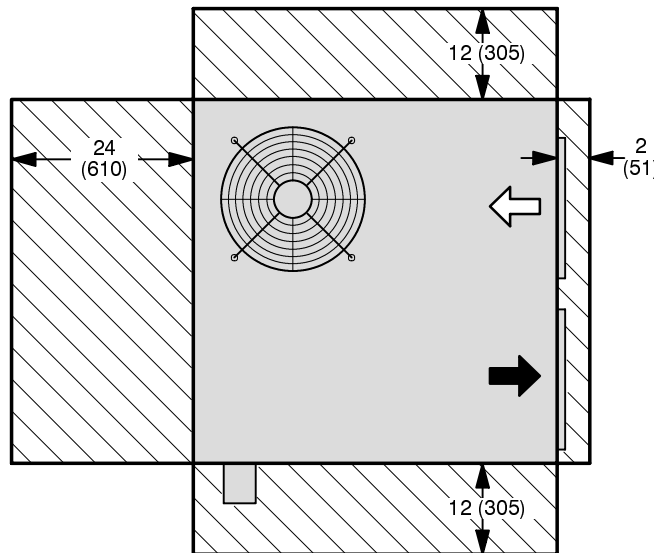
1 Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.
 2 NOTE – Where current does not exceed 100 amps, HACR type circuit breaker may be used in place of fuse (U.S. only).
 NOTE – Extremes of operating range are plus and minus 10% of line voltage.

FIELD WIRING



NOTE – All wiring must conform to NEC or CEC and local electrical codes.

INSTALLATION CLEARANCES - inches (mm)



NOTE — Top Clearance Unobstructed.

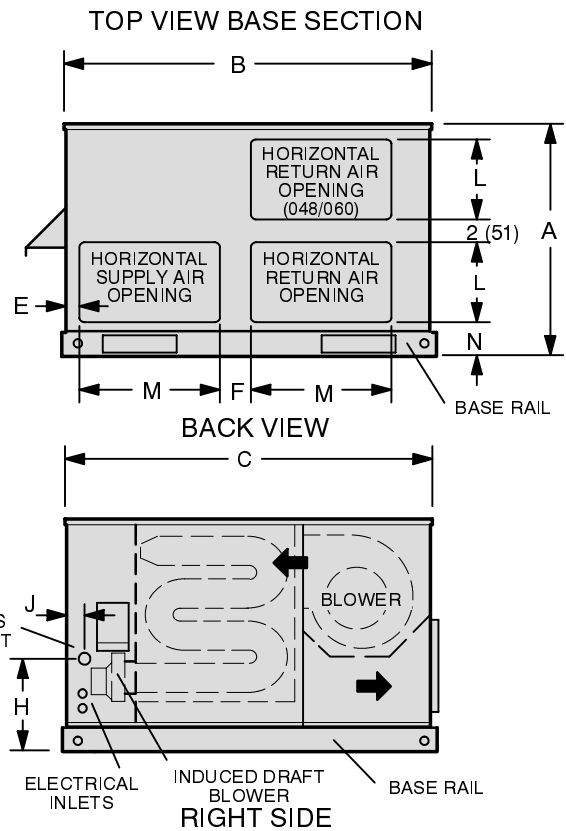
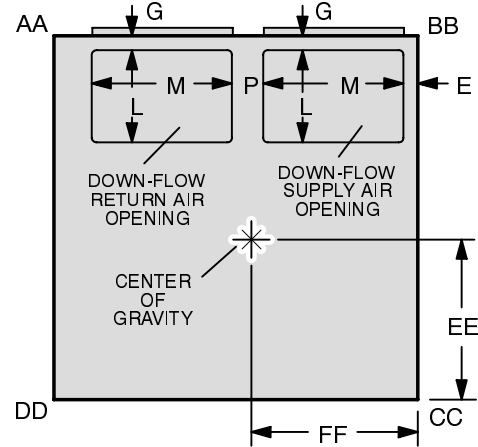
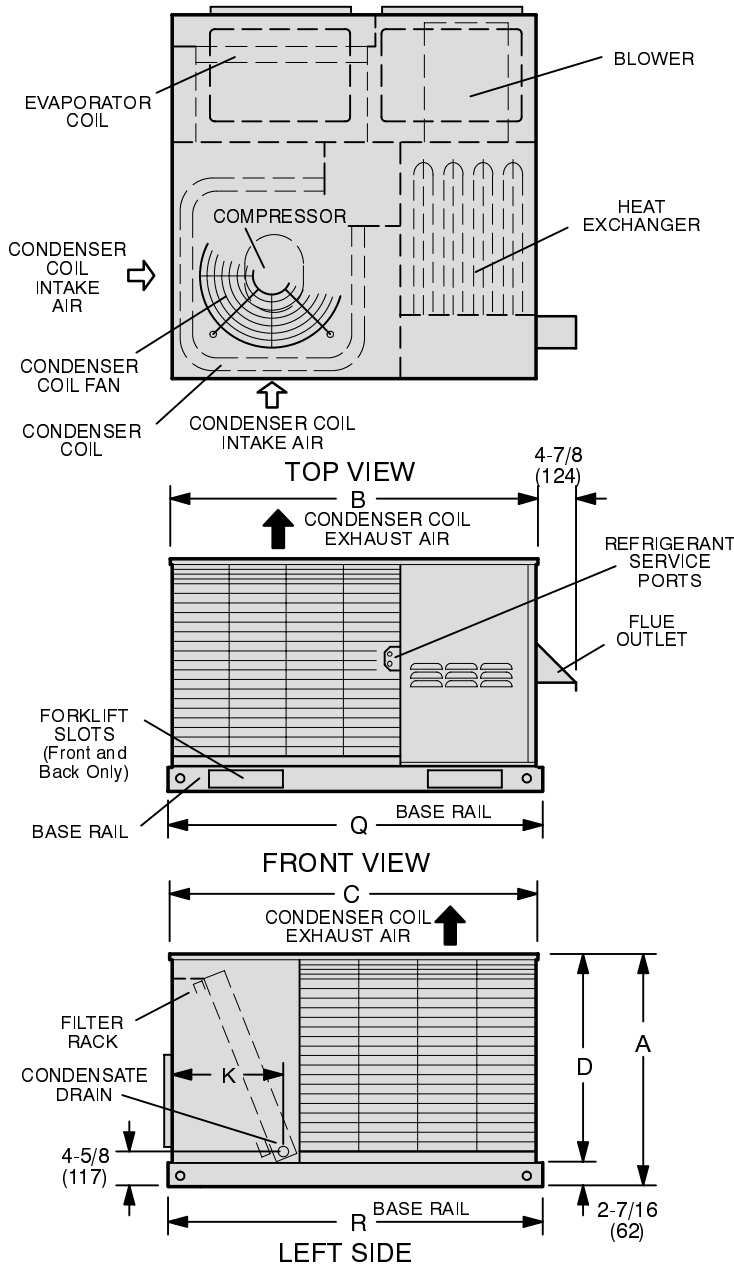
DIMENSIONS - inches (mm)

CORNER WEIGHTS — lbs. (kg)

Model Number	AA		BB		CC		DD	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
GCS29-024	75	34	67	30	68	31	91	41
GCS29-030	77	35	69	31	70	32	95	43
GCS29-036	84	38	76	34	77	35	103	47
GCS29-042	92	42	83	38	83	38	112	51
GCS29-048	112	51	101	46	101	46	136	62
GCS29-060	116	53	106	48	106	48	142	64

CENTER OF GRAVITY — inches (mm)

Model Number	EE		FF	
	inch	mm	inch	mm
GCS29-024	21-1/2	546	25	635
GCS29-030	21-1/2	546	25	635
GCS29-036	21-1/2	546	25	635
GCS29-042	21-1/2	546	25	635
GCS29-048	23-3/8	594	30-1/8	511
GCS29-060	23-3/8	594	30-1/8	511



Model Number	A		B		C		D		E		F		G		H	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
GCS29-024, 30, 36	27-11/16	703	45-5/8	1159	45-5/8	1159	25-1/4	641	1-13/16	46	4	102	1-7/8	48	17-15/16	456
GCS29-042	31-11/16	805	45-5/8	1159	45-5/8	1159	29-1/4	743	1-13/16	46	4	102	1-7/8	48	19-15/16	506
GCS29-048, 060	33-11/16	856	54-11/16	1389	49-5/8	1260	31-7/16	799	1-1/8	29	6-1/8	159	2-1/4	57	19-15/16	506

Model Number	J		K		L		M		N		P		Q		R	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
GCS29-024, 30, 36	2-1/4	57	15-5/8	397	11-1/2	292	17-1/2	445	5	127	4	102	46-3/8	1179	46-3/8	1179
GCS29-042	2-1/4	57	15-5/8	397	11-1/2	292	17-1/2	445	5	127	4	102	46-3/8	1179	46-3/8	1179
GCS29-048, 60	3-1/2	89	17-1/8	435	12	305	21-1/2	527	4-1/8	105	5-5/8	143	55-1/4	1403	50-1/2	1283