

KEEN PUMP

DUPLEX CONTROL PANEL SINGLE PHASE 4 FLOATS - CAPACITORS in PANEL

Technical Specifications

A NEMA 4X fiberglass control panel shall be furnished with each pumping unit / basin package.

The control panel enclosure shall be molded of glass reinforced polyester resins, which are chemically resistant to corrosive atmospheres. The resin system shall be pigmented to impart a gray color to the enclosure and be resistant to ultraviolet light.

The resin system also shall include a flame retardant to obtain a flammability rating which meets U.L. 94V-0. Heat distortion temperature shall be 350 degrees Fahrenheit.

The enclosure shall be of one piece, NEMA 4X fiberglass, weatherproof construction with smooth, rounded corners and shall be constructed to have a smooth exterior and interior. The enclosure shall be fitted with a closed cell neoprene gasket cover. The enclosure shall have back panel mounting provisions.

The cover shall be hinged with a heavy-duty corrosion resistant stainless steel piano hinge. The cover shall be lockable by means of two (2) high quality combination stainless steel latches and padlock hasps.

The enclosure shall be provided with external mounting feet on the top and bottom of the enclosure. These mounting feet shall be of fiberglass and molded as an integral part of the enclosure.

The back panel shall be a minimum of .080" aluminum and held in place by (4) #10 screws, which will mate to four (4) threaded standoffs, which are molded into the enclosure.

The panel shall include (2) double pole main disconnect circuit breakers, alarm circuit breaker, (2) I.E.C. rated motor contactors, (2) sets of start and run capacitors, (2) plug-in control relays, alternator relay, (2) pump hand-off-auto switches, red alarm light, audible alarm, alarm silence switch, enclosed wire way, terminal blocks, ground lug and all necessary wiring. Terminal strips must have a minimum 3" clearance to the inside wall of the enclosure for ease of wiring.

The control panel shall be fitted with a red lexan alarm light. The light shall remain solidly illuminated for moisture detection in the lower seal chamber of the pump. The alarm light shall flash, indicating a high water alarm condition in the basin. The light shall be approximately 3" high by 2" diameter, mounted on the top surface of the enclosure, visible from all 360-degree direction. The bulb shall be 40-watt minimum high intensity-medium base type. The bulb or lens shall be easily replaced by removing a threaded setscrew and locking washer on the interior of the panel. The lens shall be mounted on top of the enclosure with a neoprene gasket.

The alarm condition will produce a bright glowing alarm light and audible buzzer. The audible buzzer can be silenced by means of the silence switch inside the front panel. The red indicator light will remain illuminated as long as the alarm condition persists. Both flashing alarm light and audible buzzer will stop when the water level drops to normal operating conditions.

All internal wiring shall be neatly assembled within an enclosed wire way. Each wire shall be a different color or stripe (except for ground), and all incoming wires shall terminate in the terminal block. All wires shall be 14GA. Type TEW rated for 105 degrees Celsius.

A schematic diagram shall be permanently fastened to the inside of the enclosure.

The control panel shall be U.L. listable as an assembly.

KEEN PUMP

DUPLEX CONTROL PANEL SINGLE PHASE 4 FLOATS - CAPACITORS in PUMP

Technical Specification

A NEMA 4X fiberglass control panel shall be furnished with each pumping unit / basin package.

The control panel enclosure shall be molded of glass reinforced polyester resins, which are chemically resistant to corrosive atmospheres. The resin system shall be pigmented to impart a gray color to the enclosure and be resistant to ultraviolet light.

The resin system also shall include a flame retardant to obtain a flammability rating which meets U.L. 94V-0. Heat distortion temperature shall be 350 degrees Fahrenheit.

The enclosure shall be of one piece, NEMA 4X fiberglass, weatherproof construction with smooth, rounded corners and shall be constructed to have a smooth exterior and interior. The enclosure shall be fitted with a closed cell neoprene gasket cover. The enclosure shall have back panel mounting provisions.

The cover shall be hinged with a heavy-duty corrosion resistant stainless steel piano hinge. The cover shall be lockable by means of two (2) high quality combination stainless steel latches and padlock hasps.

The enclosure shall be provided with external mounting feet on the top and bottom of the enclosure. These mounting feet shall be of fiberglass and molded as an integral part of the enclosure.

The back panel shall be a minimum of .080" aluminum and held in place by (4) #10 screws, which will mate to four (4) threaded standoffs, which are molded into the enclosure.

The panel shall include (2) double pole main disconnect circuit breakers, alarm circuit breaker, (2) I.E.C. rated motor contactors, (2) plug-in control relays, alternator relay, (2) pump hand-off-auto switches, red alarm light, audible alarm, alarm silence switch, enclosed wire way, terminal blocks, ground lug and all necessary wiring. Terminal strips must have a minimum 3" clearance to the inside wall of the enclosure for ease of wiring.

The control panel shall be fitted with a red lexan alarm light. The alarm light shall flash, indicating a high water alarm condition in the basin. The light shall be approximately 3" high by 2" diameter, mounted on the top surface of the enclosure, visible from all 360-degree direction. The bulb shall be 40-watt minimum high intensity-medium base type. The bulb or lens shall be easily replaced by removing a threaded setscrew and locking washer on the interior of the panel. The lens shall be mounted on top of the enclosure with a neoprene gasket.

The alarm condition will produce a bright glowing alarm light and audible buzzer. The audible buzzer can be silenced by means of the silence switch inside the front panel. The red indicator light will remain illuminated as long as the alarm condition persists. Both flashing alarm light and audible buzzer will stop when the water level drops to normal operating conditions.

All internal wiring shall be neatly assembled within an enclosed wire way. Each wire shall be a different color or stripe (except for ground), and all incoming wires shall terminate in the terminal block. All wires shall be 14GA. Type TEW rated for 105 degrees Celsius.

A schematic diagram shall be permanently fastened to the inside of the enclosure.

The control panel shall be U.L. listable as an assembly.

KEEN PUMP

DUPLEX CONTROL PANEL THREE PHASE 4 FLOAT OPERATION

Technical Specifications

A NEMA 4X fiberglass control panel shall be furnished with each pumping unit / basin package.

The control panel enclosure shall be molded of glass reinforced polyester resins, which are chemically resistant to corrosive atmospheres. The resin system shall be pigmented to impart a gray color to the enclosure and be resistant to ultraviolet light.

The resin system also shall include a flame retardant to obtain a flammability rating which meets U.L. 94V-0. Heat distortion temperature shall be 350 degrees Fahrenheit.

The enclosure shall be of one piece, NEMA 4X, weatherproof construction with smooth, rounded corners and shall be constructed to have a smooth exterior and interior. The enclosure shall be fitted with a closed cell neoprene gasket cover. The enclosure shall have back panel mounting provisions.

The cover shall be hinged with a heavy-duty corrosion resistant stainless steel piano hinge. The cover shall be lockable by means of two (2) high quality combination stainless steel latches and padlock hasps.

The enclosure shall be provided with external mounting feet on the top and bottom of the enclosure. These mounting feet shall be of fiberglass and molded as an integral part of the enclosure.

The back panel shall be a minimum of .080" aluminum and held in place by (4) #10 screws, which will mate to four (4) threaded standoffs, which are molded into the enclosure.

The panel shall include (2) three pole main disconnect circuit breakers, alarm circuit breaker, (2) I.E.C. rated motor starters with ambient compensated bimetal overload relay, control transformer with primary fusing, (2) plug-in control relays, alternator relay, (2) pump hand-off-auto switches, red alarm light, audible alarm, alarm silence switch, enclosed wire way, terminal blocks, ground lug and all necessary wiring. Terminal strips must have a minimum 3" clearance to the inside wall of the enclosure for ease of wiring.

The control circuitry shall include thermal overload protection, automatically stopping pump operation if overheating is sensed inside the motor housing of the pump. Pump operation will automatically resume once overheating conditions have passed.

The control panel shall be fitted with a red lexan alarm light. The light shall remain solidly illuminated for moisture detection in the lower seal chamber of the pump. The alarm light shall flash, indicating a high water condition in the basin. The light shall be approximately 3" high by 2" diameter, mounted on the top surface of the enclosure, visible from all 360-degree direction. The bulb shall be 40-watt minimum high intensity-medium base type. The bulb or lens shall be easily replaced by removing a threaded setscrew and locking washer on the interior of the panel. The lens shall be mounted on top of the enclosure with a neoprene gasket.

The alarm condition will produce a bright glowing alarm light and audible buzzer. The audible buzzer can be silenced by means of the silence switch inside the front panel. The red indicator light will remain illuminated as long as the alarm condition persists. Both flashing alarm light and audible buzzer will stop when the water level drops to normal operating conditions.

All internal wiring shall be neatly assembled within an enclosed wire way. Each wire shall be a different color or stripe (except for ground), and all incoming wires shall terminate in the terminal block. All wires shall be 14GA. Type TEW rated for 105 degrees Celsius.

A schematic diagram shall be permanently fastened to the inside of the enclosure.

The control panel shall be U.L. listable as an assembly.

KEEN PUMP

SINGLE PHASE CONTROL PANELS

SIMPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCG2-115S	2	208 / 230	KG2-115
KCG2-21CS	2	208 / 230	KG2-21C
KCG2-21S	2	208 / 230	KG2-21, KHG2-21
KCGHH2-21S	2	208 / 230	KHHG2-21, KHHG2H-21
KCNC3-21S	3	208 / 230	KG-31, KHG-31 K4R30M2-21 K4V30M4-21
KCNC5-21S	5	208 / 230	KG-51, KHG-51 K4R50M2-21 K4V50M4-21
KCNC7-21S	7.5	230	KHG-71

DUPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCG2-115D	2	208 / 230	KG2-115
KCG2-21CD	2	208 / 230	KG2-21C
KCG2-21D	2	208 / 230	KG2-21, KHG2-21
KCGHH2-21D	2	208 / 230	KHHG2-21, KHHG2H-21
KCNC3-21D	3	208 / 230	KG-31, KHG-31 K4R30M2-21 K4V30M4-21
KCNC5-21D	5	208 / 230	KG-51, KHG-51 K4R50M2-21 K4V50M4-21
KCNC7-21D	7.5	230	KHG-71

THREE PHASE CONTROL PANELS

SIMPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCG2-23S	2	208 / 230	KG2-23, KHG2-23
KCG2-43S	2	460	KG2-43, KHG2-43
KCNC3-23S	3	208 / 230	KG-33, KHG-33 K4R30M2-23 K4V30M4-23
KCNC3-43S	3	460	KG-33, KHG-33 K4R30M2-43 K4V30M4-43
KCNC5-23S	5	208 / 230	KG-53, KHG-53 K4R50M2-23 K4V50M4-23
KCNC5-43S	5	460	KG-53, KHG-53 K4R50M2-43 K4V50M4-43
KCNC7-23S	7.5	208 / 230	KHG-73 K4R75M2-23 K4V75M4-23 K4VL75M4-23 K4VL75M6-23 K6VL75M6-23
KCNC7-43S	7.5	460	KHG-73 K4R75M2-43 K4V75M4-43 K4VL75M4-43 K4VL75M6-43 K6VL75M6-43
KCNC10-23S	10	230	K4VL100M4-23 K4VL100M6-23 K6VL100M4-23 K6VL100M6-23
KCNC10-43S	10	460	K4VL100M4-43 K4VL100M6-43 K6VL100M4-43 K6VL100M6-43

THREE PHASE CONTROL PANELS

SIMPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCNC15-23S	15	230	K4VL150M4-23 K4H150M6-23 K6VL150M4-23 K6H150M6-23 K8H150M4-23
KCNC15-43S	15	460	K4VL150M4-43 K4H150M6-43 K6VL150M4-43 K6H150M6-43 K8H150M4-43
KCNC20-23S	20	230	K4VL200M4-23 K4H200M6-23 K6VL200M4-23 K6H200M6-23 K8H200M4-23
KCNC20-43S	20	460	K4VL200M4-43 K4H200M6-43 K6VL200M4-43 K6H200M6-43 K8H200M4-43
KCNC25-23S	25	230	K4H250M4-23 K4H250M6-23 K6H250M4-23 K6H250M6-23 K8H250M4-23
KCNC25-43S	25	460	K4H250M4-43 K4H250M6-43 K6H250M4-43 K6H250M6-43 K8H250M4-43
KCNC30-23S	30	230	K8H300M4-23
KCNC30-43S	30	460	K8H300M4-43
KCNC40-23S	40	230	K8H400M8-23 K10H400M8-23
KCNC40-43S	40	460	K8H400M8-43 K10H400M8-43
KCNC50-23S	50	230	K8H500M8-23 K10H500M8-23
KCNC50-43S	50	460	K8H500M8-43 K10H500M8-43

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THREE PHASE CONTROL PANELS

DUPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCG2-23D	2	208 / 230	KG2-23, KHG2-23
KCG2-43D	2	460	KG2-43, KHG2-43
KCNC3-23D	3	208 / 230	KG-33, KHG-33 K4R30M2-23 K4V30M4-23
KCNC3-43D	3	460	KG-33, KHG-33 K4R30M2-43 K4V30M4-43
KCNC5-23D	5	208 / 230	KG-53, KHG-53 K4R50M2-23 K4V50M4-23
KCNC5-43D	5	460	KG-53, KHG-53 K4R50M2-43 K4V50M4-43
KCNC7-23D	7.5	208 / 230	KHG-73 K4R75M2-23 K4V75M4-23 K4VL75M4-23 K4VL75M6-23 K6VL75M6-23
KCNC7-43D	7.5	460	KHG-73 K4R75M2-43 K4V75M4-43 K4VL75M4-43 K4VL75M6-43 K6VL75M6-43
KCNC10-23D	10	230	K4VL100M4-23 K4VL100M6-23 K6VL100M4-23 K6VL100M6-23
KCNC10-43D	10	460	K4VL100M4-43 K4VL100M6-43 K6VL100M4-43 K6VL100M6-43

THREE PHASE CONTROL PANELS

DUPLEX

<u>Model No.</u>	<u>HP</u>	<u>VOLTS</u>	<u>PUMP SERIES</u>
KCNC15-23D	15	230	K4VL150M4-23 K4H150M6-23 K6VL150M4-23 K6H150M6-23 K8H150M4-23
KCNC15-43D	15	460	K4VL150M4-43 K4H150M6-43 K6VL150M4-43 K6H150M6-43 K8H150M4-43
KCNC20-23D	20	230	K4VL200M4-23 K4H200M6-23 K6VL200M4-23 K6H200M6-23 K8H200M4-23
KCNC20-43D	20	460	K4VL200M4-43 K4H200M6-43 K6VL200M4-43 K6H200M6-43 K8H200M4-43
KCNC25-23D	25	230	K4H250M4-23 K4H250M6-23 K6H250M4-23 K6H250M6-23 K8H250M4-23
KCNC25-43D	25	460	K4H250M4-43 K4H250M6-43 K6H250M4-43 K6H250M6-43 K8H250M4-43
KCNC30-23D	30	230	K8H300M4-23
KCNC30-43D	30	460	K8H300M4-43
KCNC40-23D	40	230	K8H400M8-23 K10H400M8-23
KCNC40-43D	40	460	K8H400M8-43 K10H400M8-43
KCNC50-23D	50	230	K8H500M8-23 K10H500M8-23
KCNC50-43D	50	460	K8H500M8-43 K10H500M8-43

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Control Panel Options

- A1** - - - AUDIBLE ALARM HORN
- A2** - - - AUDIBLE ALARM BELL (TYPE 3R ONLY)
- A3** - - - AUDIBLE ALARM SONALERT

- AX** - - - AUXILIARY CONTACTS (DRY FORM A)

- C1** - - - ELAPSED TIME METER (PER METER)
- C2** - - - CYCLE COUNTER (PER COUNTER)

- D** - - - - DEAD FRONT DOOR

- G** - - - - GENERATOR RECEPTACLE

- LA** - - - LIGHTNING ARRESTOR

- LL** - - - REDUNDANT LOW LEVEL OFF

- M** - - - MAIN DISCONNECT

- PM** - - PHASE / VOLTAGE MONITOR

- R** - - - REMOTE DIALER

- UL** - - UL 508A SERIALIZED LABELING