Fan Speed Controllers
Type RGE
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Introduction

Saginomiya type RGE condenser fan speed controllers are compact, robust phase controllers designed for application on condensing units and packaged air-conditioning systems. They are particularly suitable in units that operate the year around, and provide stable operation with constant condensing pressure during winter or moderate seasons. RGE controllers make possible cost-efficient variable control of fan speed.

Features

- Pressure sensing element integrated.
- Sensor-bellows structure provides high reliability
- Single phase and 3 phase versions available.
- All common refrigerants R22, R407C, R404A, R134a, R410A
- Designed for reduced-noise operation
- Selectable slowdown mode or cut-off mode
- ¼” female connection with schraeder depressor pin
- Terminal for an external forced operation switch is provided.
- IP54 enclosure
- CSA-us approved
- CE and EMC
## Technical leaflet  
Fan Speed Controllers, Type RGE

### Specifications

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### Notes

1. The pressure at which the control delivers 95% output effective voltage (VRMS).
2. Pressure width where effective voltage corresponds to the minimum speed or causes cut off operation.
3. When the refrigerant is R134a, please change the pressure setting.

Minimum speed: Fan motor will be kept running at minimum speed when pressure decrease to the set value, (the specific value (V%)).

Cut off: Fan motor will be stopped when pressure decreases to the specific value (V%) for R.M.S.
Adjusting Method

1) Range adjustment
   Setting point is increased by turning the range adjusting screw clockwise. It is decreased by turning the screw counter-clockwise. Adjustment should be within the range indicated for the setting pointer.

2) Lower pressure operation selection
   Following operation are selectable with the change-over switch.
   - Minimum speed running: Fan motor operates at the Minimum speed when the pressure decreases below the value “Pmin”.
   - Cut-off: Fan motor stops when the pressure decreases below the value “Pmin”.

\[ P_{min} = F.V.S - E.B.P \]

- \( F.V.S \) = Pressure setting for max. speed (Adjustable)
- \( E.P.B \) = Effective Proportional Band (Fixed)

Operation

1) Single-phase type (RGE-Z1)

2) Three-phase type (RGE-Z3,X3)

The operating characteristic may vary according to the voltage, frequency, and fan motor characteristics.
Dimensions

RGE-Z1
(single phase type)

RGE-Z3,X3
(three phase type)
**Wiring**

**Single-phase type**

for 4A, 6A, 8A (RGE-Z1)

- Connect the pressure sensing element so as to sense head pressure.
- If installing the controller outside the unit housing, protect human hand from direct touching.
- Do not use RGE with ammonia systems.
- Connect RGE only to fan motor.
- Operate only with cover in place.
- Turn off the power supply before adjusting the setting or operating the change-over switch.

**Three-phase type**

- Connect fan motor to the power supply.

**Installation**

1. Mount on flat surface with conduit connection downward.
2. Connect the pressure sensing element so as to sense head pressure.
3. If installing the controller outside the unit housing, protect human hand from direct touching.
4. Do not use RGE with ammonia systems.
5. Connect RGE only to fan motor.
6. Operate only with cover in place.
7. Turn off the power supply before adjusting the setting or operating the change-over switch.