

New perspectives with Danfoss Saginomiya Fan Speed Controllers

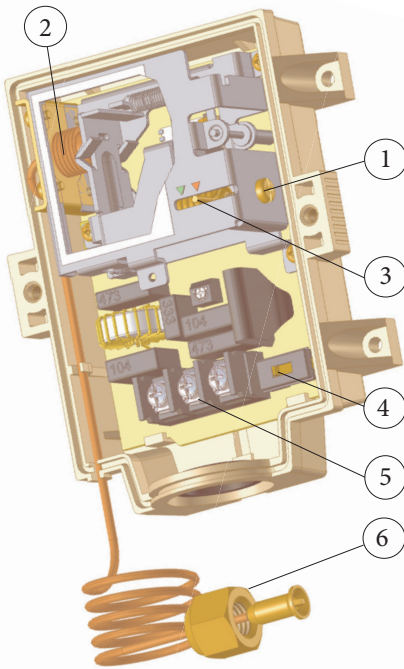


Simple and efficient



RGE fan speed controllers

- Single and three phase versions
- "All in one": pressure sensor and fan speed control
- Reliable sensing mechanism using bellows
- Simple to install and easy setting
- Multi-refrigerants : R22 / R407C / R404A / R134a and R410A
- Weather-proof (IP54)
- CE/ EMC approved



- Part names:
- 1. Adjusting screw
 - 2. Bellows
 - 3. Range setting pointer (dual marking 11 and 19bar)
 - 4. Change over switch
 - 5. Terminal board
 - 6. 1/4" flare with depression pin (7/16-20 UNF)

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.

Cut off: Fan motor stops when the pressure decreases below the value Pmin.

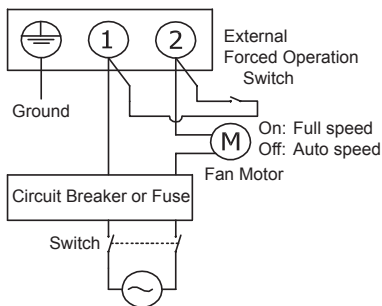
Min. Speed: Fan motor operates at the Minimum Speed when the pressure decreases below the value Pmin.

F.V.S = Full Voltage Set Point (pressure setting for maximum speed)
 E.P.B = Effective Proportional Band
 $P_{min} = (F.V.S - E.P.B)$

The RGE controls the speed of the condenser fan in refrigeration and air conditioning units that work all year long.

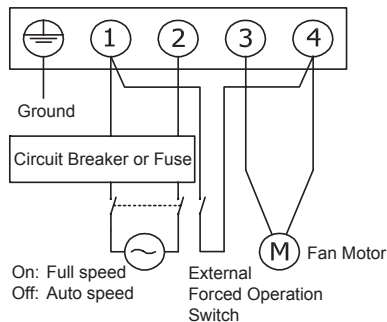
It keeps the condensing pressure at a steady level by changing the speed of the fan according to the required condensing pressure.

3A single-phase type



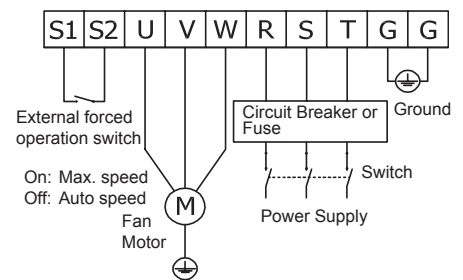
- 2 terminals
- External forced operation switch

4A, 6A, 8A single-phase type



- 4 terminals
- External forced operation switch

Three-phase type



- 8 terminals
- External forced operation switch

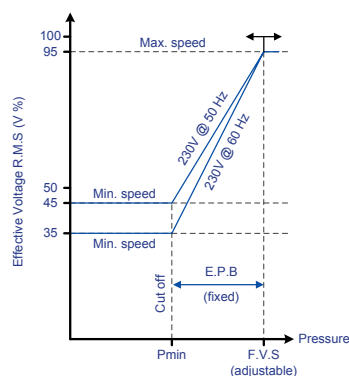
On - fan is forced to operate at Maximum speed regardless of the pressure.

Off - fan operates according to the RGE function, with speed varying according to pressure.

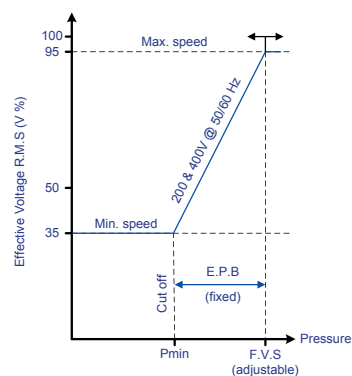
For single-phase type, if an external forced operation switch is required, then the switch and connecting cables (not supplied) should have current rating higher than the fan motor rating. For example, a 4A switch is recommended for the 3A RGE model.

For three-phase type, use a forced operation switch with non-voltage contact signal.

Single-phase type



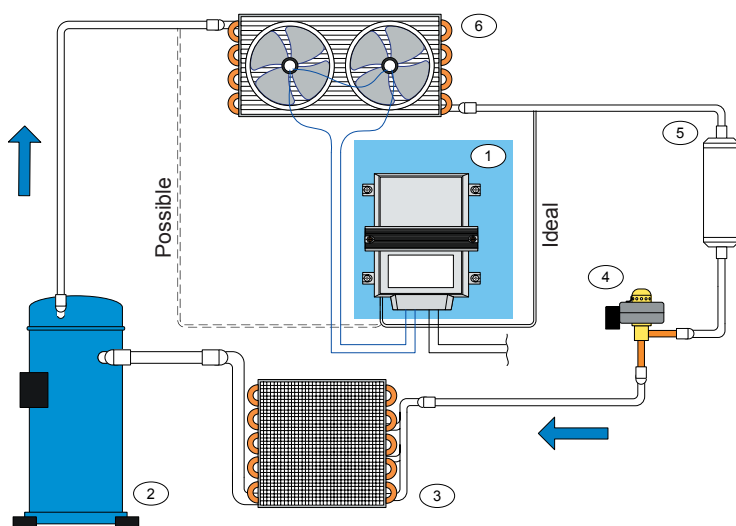
Three-phase type



The operating characteristics may vary according to voltage, frequency, and fan motor characteristics



EXAMPLE OF APPLICATION DIAGRAM



All RGE models operate at low current down to 0.2A, allowing versatile operation and use.

The pressure connection of the RGE can be made either before or after the condenser providing more installation options and flexibility.

Fig. Typical refrigeration system using RGE fan speed controller.

- (1) RGE Fan Speed Controller
- (2) Compressor
- (3) Evaporator
- (4) Expansion valve
- (5) Receiver
- (6) Condenser

SINGLE-PHASE VERSIONS 3-8 A

Code number	Catalog number	Factory set [bar]	Refrigerant	Adjusting range* [bar]	Proportional band** [bar]	Electrical motor rating [A]	Power supply	Ambient temp. [°C]
061H3045	RGE-Z1L4-7DS	19	R407C, R134a, R404A, R22	8-28	6	0.2-3	200-240V 50/60Hz	-20 to 55
061H3048	RGE-Z1L6-7DS	32	R410A	16-39	9	0.2-4		
061H3005	RGE-Z1N4-7DS	19	R407C, R134a, R404A, R22	8-28	4			
061H3021	RGE-Z1N6-7DS	32	R410A	16-39	8	0.2-6		
061H3008	RGE-Z1P4-7DS	19	R407C, R134a, R404A, R22	8-28	4			
061H3022	RGE-Z1P6-7DS	32	R410A	16-39	8	0.2-8		
061H3009	RGE-Z1Q4-7DS	19	R407C, R134a, R404A, R22	8-28	4			
061H3023	RGE-Z1Q6-7DS	32	R410A	16-39	8			

Single-phase version: cut-off or minimum speed function selectable with changeover switch at approx. 45% of the maximum effective output for 50Hz and 35 % for 60Hz.

THREE-PHASE VERSIONS 5-7 A

Code number	Catalog number	Factory set [bar]	Refrigerant	Adjusting range* [bar]	Proportional band** [bar]	Electrical motor rating [A]	Power supply	Ambient temp. [°C]
061H3003	RGE-Z3R4-7DS	16	R407C, R134a, R404A, R22	8-28	4	0.2-5	200-240V 50/60Hz	-20 to 50
061H3006	RGE-X3R4-7DS						380-415V 50/60Hz	-15 to 50
061H3027	RGE-Z3R6-7DS	32	R410A	16-39	8		200-240V 50/60Hz	-20 to 50
061H3028	RGE-X3R6-7DS						380-415V 50/60Hz	-15 to 50
061H3050	RGE-Z3T4-7DS	16	R407C, R134a, R404A, R22	8-28	6	0.2-7	200-240V 50/60Hz	-20 to 50
061H3051	RGE-Z3T6-7DS	32	R410A	16-39	8			

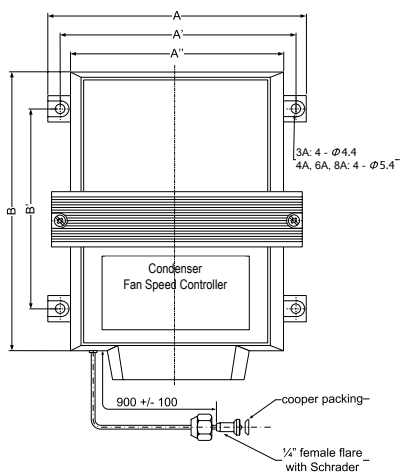
Three-phase version: cut-off or minimum speed function selectable with changeover switch at approx. 35% of the maximum effective output.

* Adjusting range: pressure at which the control delivers 95% output effective power supply (VRMS) corresponding to maximum speed operation of the fan.

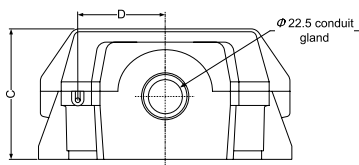
** Proportional band where effective voltage corresponds to variations of pressure.

All cased models of RGE are weather-proof (IP54 protection rating) and are suitable for exterior installation. For all types max. working pressure is 47 bar.

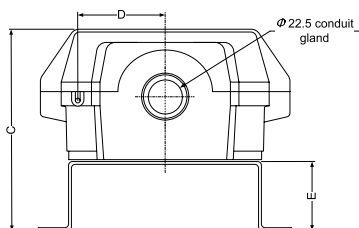
SINGLE-PHASE VERSIONS



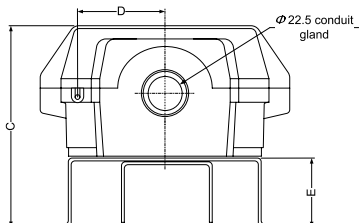
for 3 A



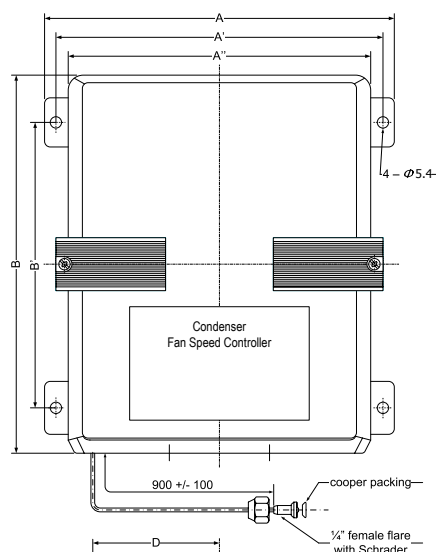
for 4 A / 6 A



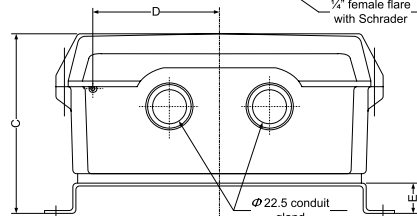
for 8 A



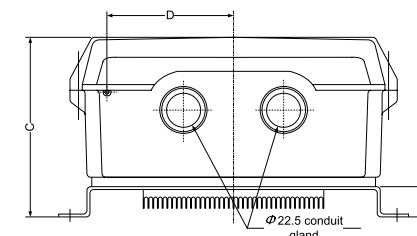
THREE-PHASE VERSIONS



for 5 A



for 7 A



Dimensions		Single - phase version				Three-phase version	
		3A	4A	6A	8A	5A	7A
A	mm	104		105		185	185
A'		95		95		175	175
A''		85		85		160	160
B		125		150		200	200
B'		75		100		130	130
C		55	58	76	76	98	98
D		36	36	36	36	67	67
E		-	7	25	25	16	16

Danfoss Saginomiya Sp. z o.o.

ul. Chrzanowska 5; 05-825 Grodzisk Mazowiecki Poland

Phone +48 (22) 7550 500, Fax +48 (22) 7550 505

info@danfoss-saginomiya.com, www.danfoss-saginomiya.com

Danfoss Saginomiya Sp. z o.o. can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss Saginomiya Sp. z o.o. reserves the right to alter its products without notice. This also applies to products already on order, provided that such alteration can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss Saginomiya and the Danfoss Saginomiya logotype are trademarks of Danfoss Saginomiya Sp. z o.o. All rights reserved.