

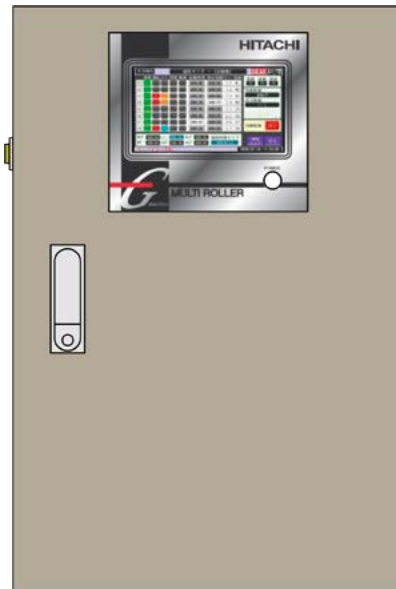
HITACHI
Inspire the Next

Energy-saving & Optimized Operation

MULTI ROLLER *G* series



MULTI ROLLER *G*series can control multiple compressors with pressure sensor and exclusive controller efficiently and contributes energy saving with following benefits.



Main features

Energy & Labor Saving

Minimizing the number of operating compressors and integrated control allows cost down on energy and maintenance.

Stable Air Supply

By monitoring and optimizing each compressors' operation, you can respond to burden fluctuation and lead to stable air supply. In case of compressor down, backup unit is immediately operated.

Leveling Compressor Load

Contributes to equalization of burden of units.

Versatile and Flexible Operation

Multiple operation methods are available.

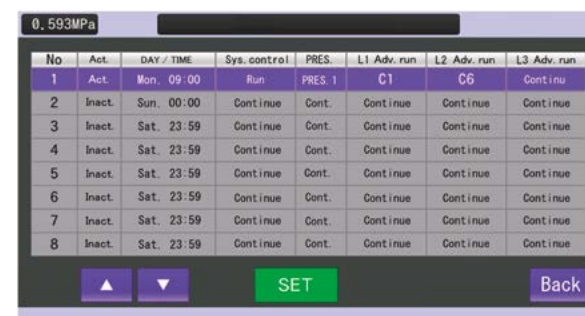
User-friendly operation interface

Multi-functional color touch panel

- Significant improvement in operability (Touch panel, Numeric keypad etc.)
- Providing a variety of operation function (Scheduled running operation, Restart after momentary power loss, Auto stop etc.)
- Operating data logging function (Pressure, Temperature, Error history etc.)

Fullfilled IT communication functions

- USB memory support (Data format: CSV format)
 - Modbus® communication support
Standard: Modbus® / RTU; Option: Modbus® / TCP)
- *Internet Connection is not available



Flexible Weekly scheduling function
(MAX 50 run/stop reservation/day)

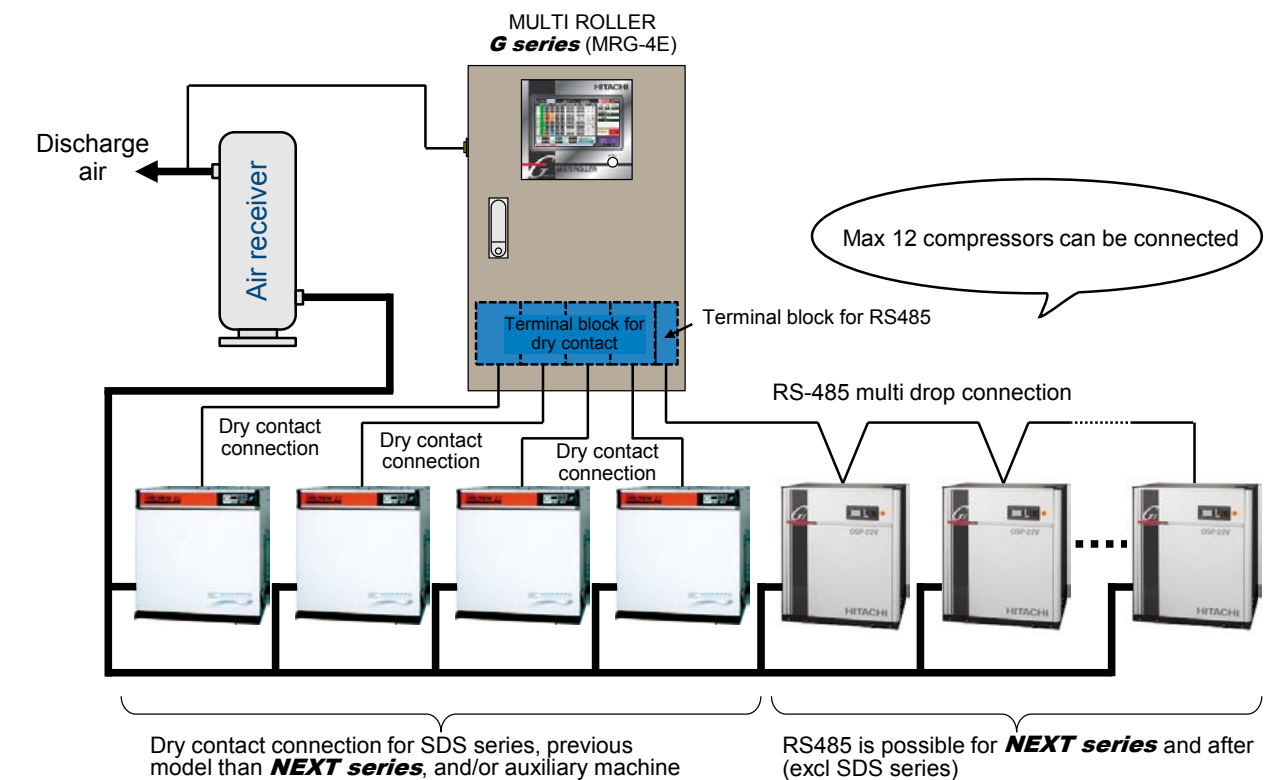


7-inch large screen



Graphic Display of operation status

System configuration example



Precaution for Use of System

[Compressor Operation]

- When performing individual operation, it needs to set individually at MULTI ROLLER side and stop the machine first. Then change the setting to individual mode at compressor side to perform individual operation.
- When at maintenance, be sure to set the compressor to individual mode, and confirm the power breaker OFF before starting maintenance.

[Electric System]

- To activate <restart at instantaneous power failure function>, use the same power system of compressor and MULTI ROLLER and make the both power will be OFF in case of power failure (prepare the breaker for each considering the maintenance work).
- To avoid malfunction, use separate shield cable for AC wiring and DC wiring of MULTI ROLLER and keep 200mm or more distance between both wirings and the power cable. Use twisted shield cable for analog signal line (PID signal) and keep 200mm or more from the power cables, and locate inside the cable pipe. Be sure to ground each compressor and MULTI ROLLER. Especially for earth cable of V-type machine, separate the earth from other earth lines and connected to actual earth (ground).
- If there is a possibility that the electric-magnetic noise source is nearby the compressors and MULTI ROLLER, or if the wiring distance between the compressors and/or MULTI ROLLER is long, or if there is any question, consult your nearest service station.
- At RS485 multi drop connection, turn ON the furthest (physically) unit termination resistor. Turn OFF the termination resistor of all other units.

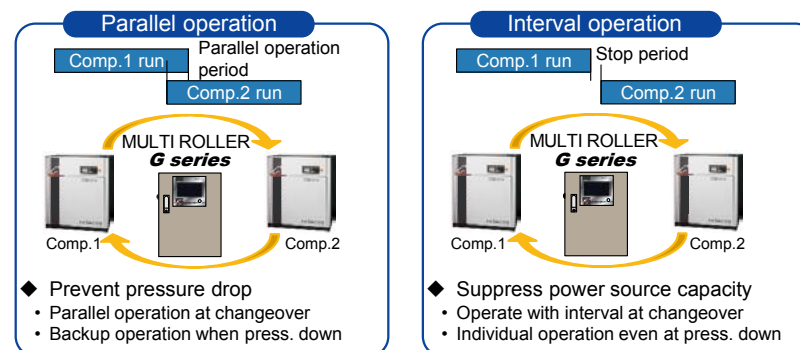
Efficiency

NEW Lead-lag operation (parallel/interval)

You can achieve lead-lag operation with 2 compressors.

Parallel operation prevents pressure drop caused by start/unload of lead operation.

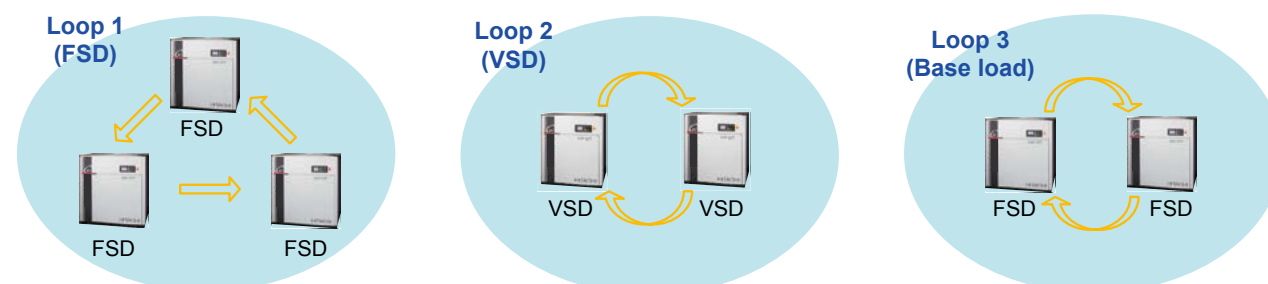
Interval operation achieves effective lead-lag operation of 2 compressors with power capacity for a single compressor.



NEW Loop Control-3 Control Pattern Options

First one of base load machines starts priorly and operates continuously. Operation control pattern is extended thanks to this function.

FSD... Fixed Speed Drive
VSD... Variable Speed Drive



Long term stop setting

When give the stop command to the working compressor with MULTI ROLLER individual setting by long term stop function, the said compressor stops after the certain time automatic unload operation (drying operation). This can prevent rusting inside the compressor.

A working compressor at the multi unit control operation also can be stopped after the certain time automatic unload operation by this function.

Direct Control for V-type models

Easy to combine with constant speed model due to direct control signal from MULTI ROLLER G to V-type model.

- No control piping modification is necessary for either Single-V or Multi-V control.
- Pressure setting adjustment for-V type models (compressor side) is unnecessary because pressure is set by the MULTI ROLLER G side.

Reliability

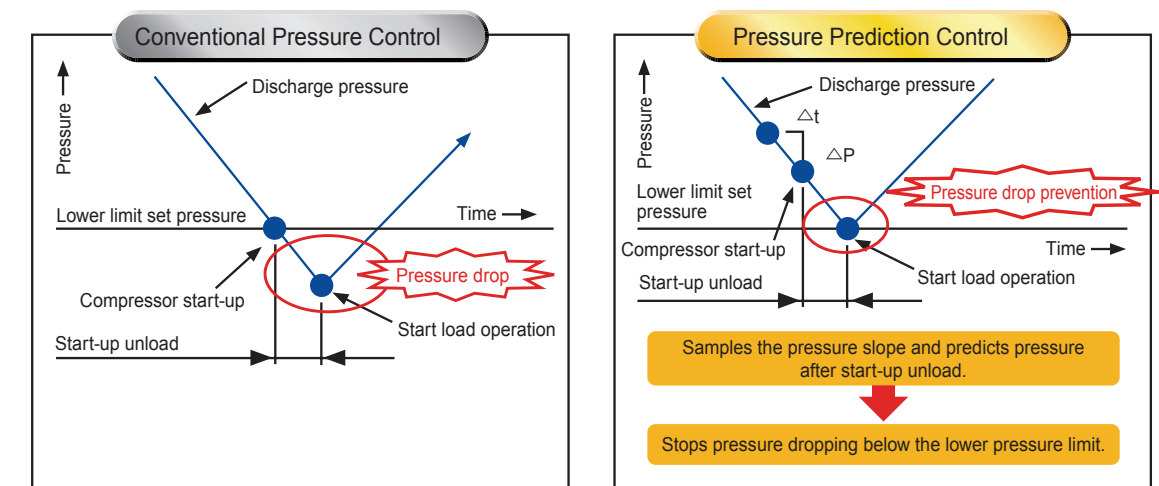
Pressure Prediction Control Function

MULTI ROLLER G Controls Pressure Drop by Backup Operation.

Calculates pressure drop slope. Speeds up the start-up timing and controls pressure drop by predicting the lowest point.

(Only when in combination with constant speed model)

*To utilize this function, setting needs to be activated. Initial setting: Off.



IPI (Instant Power Interruption) Blackout Auto Restart Function

This function is to prevent compressor shutdown caused by instant power interruption (IPI). When it occurs, the compressor shuts down once, and restarts operation again automatically.

- Operation continues up to about 20msec
- Selectable auto restart function
- Possible to combine with compressor with IPI auto restart function

Operating Hours Equalizing function

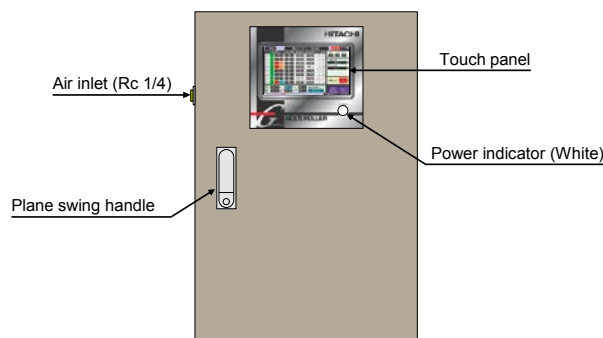
When the air capacity is stable and the same unit continues to operate, this function will equalize the operation time.

MULTI ROLLER *G series*

MRG - E

MULTI ROLLER *G series*

English version
Numbers of connected units
(4, 8, N (Communication only))



Specification

Item		Model	MRG-4E	MRG-8E	MRG-NE
Ambient	Usage place	Indoor (Dust-proof wall-mounted type)			
	Temperature	0 ~ 40 deg-C			
Power supply			1-ph. AC85 to 240V 50/60Hz		
Controllable compressors	Max. connectable Units	12 compressors			
	Connectable contacts (internal of above)	4	8	0 (comm. only)	
Touch panel			7" wide color LCD		
Control function			Initial air charge, Selection of preceding machine, Rotary operation, Turn-back operation (only for fixed speed machine), PID control, Pressure prediction control, 2nd-pressure, Weekly operation, Forced changeover, Restart at power off, Interlock/Individual operation changeover, Central operation, Forced start Long stop, Operation control of auxiliary machine (dryer, pump)(excl. MRG-N), Lead-lag operation		
Input	Discharge pressure	0~1MPa (digital display)			
	Control	Operation answer, Fault			-
	Remote	Remote operation, Remote stop, Forced start, (Flow volume (option *1))			
Output	Control	Run, Stop, Load command, PID command			-
	Remote	In operation, Remote selection, Low pressure, Fault sum-up			
Communication specification			RS485 (2-wire) half-duplex asynchronous, 9600bps multi-drop		
Communication contents			Run, Stop, Load, Operation answer, Fault, etc.		
Set width of control discharge press.			Min. ±0.001 MPa settable		
Power supply capacity			40W or less	50W or less	30W or less
Dimensions W x D x H (mm)			400 x 250 x 600	500 x 250 x 900	400 x 250 x 400
Weight			25kg	37kg	13kg
Painted color			Cream (Munsell No.5Y7/1 or equivalent)		

Note

- *1) Use flow volume sensor, which is commercially available
- 2) Dimensions excludes joint portion and protrude portion
- 3) Appearance, display design and/or specification may change without notice

Hitachi Industrial Equipment Systems Co., Ltd.

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Hitachi air compressor

