LG
Life's Good

LG HVAC SOLUTION

LG Centrifugal Chiller

COP 6.7
IPLV 8.0

Cooling Capacity
200~3,000RT

AHRI CERTIFIED
www.ahridirectory.org
Water-Cooled Chillers
AHRI Standard 550/590

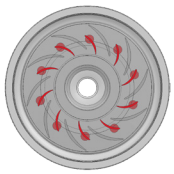
Intertek

Why LG Centrifugal Chiller?

LG Electronics developed world class 2 stage centrifugal chiller through advanced technologies and manufacturing / installation / operation experience over several decades. LG 2 stage centrifugal chiller is high efficient and reliable by adapting special design with 2nd inlet guide vane and semi-hermetic type compressor.

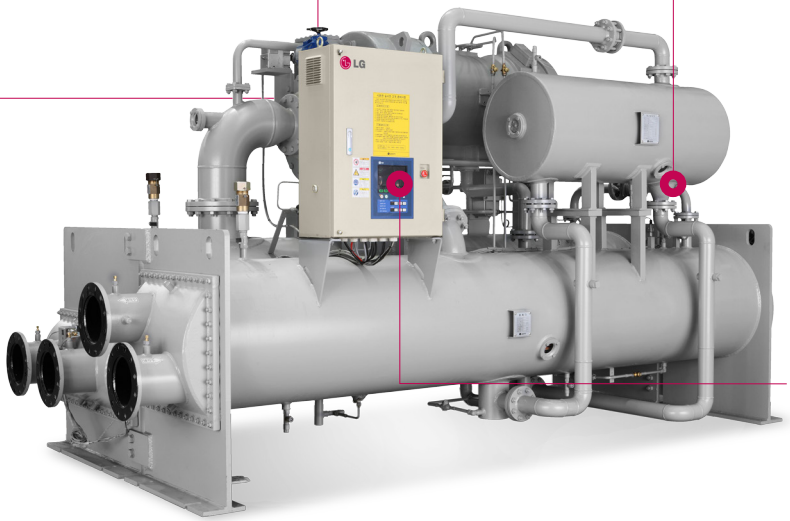
2nd Inlet Guide Vane (IGV)

- Extend part load operation range
- Improve part load efficiency



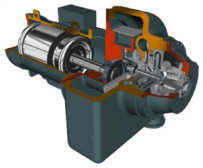
Floating Type Expansion Valve

- Passive refrigerant flow control
- Save operation cost



Semi-hermetic Motor

- Much low leakage rate
- No additional air cooling system



User Friendly Controller

- 7 inch LCD display
- Operation status, scheduling etc.

World Class High Efficiency
COP 6.7 / IPLV 8.0

| AHRI condition, 700RT |

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High Energy Efficiency

- Optimized 2 stage compressor cycle
- Economizer with variable refrigerant control

Convenience

- User friendly controller with various functions
- Easy BMS interface (Modbus, BACnet, TCP/IP)

Reliability & Stability

- 2 stage refrigerant cycle with variable diffuser or 2nd IGV
- Oil reservoir for emergency lubrication
- R-134a refrigerant , ODP = 0
- AHRI certified model selection program
- AHRI certified factory performance test facility

Improved Part Load Efficiency

2nd inlet guide vane

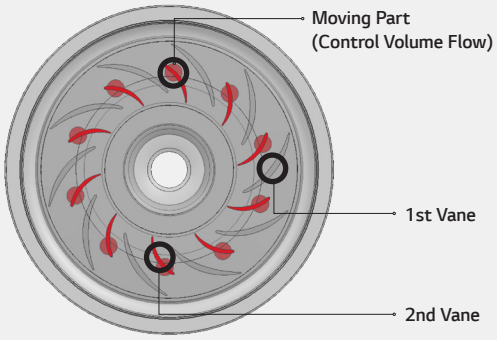
2nd IGV adjusts the inlet flow angle of 2nd impeller for optimizing compression condition

Floating type expansion valve

Without electric power consumption, refrigerant flow is passively controlled by buoyancy

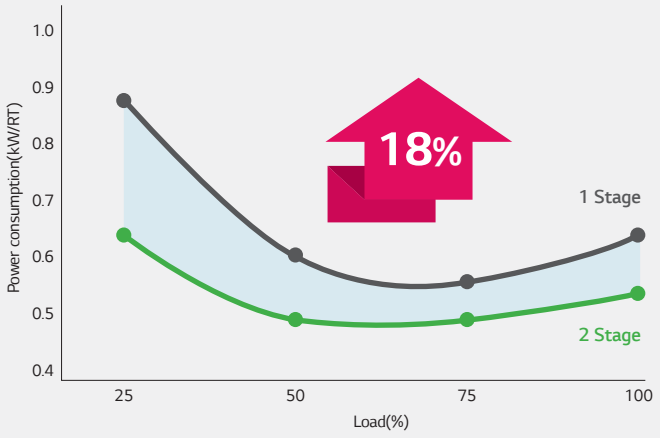
- Save operation cost
- Do not need additional parts (including control system)

Schematic of 2nd IGV

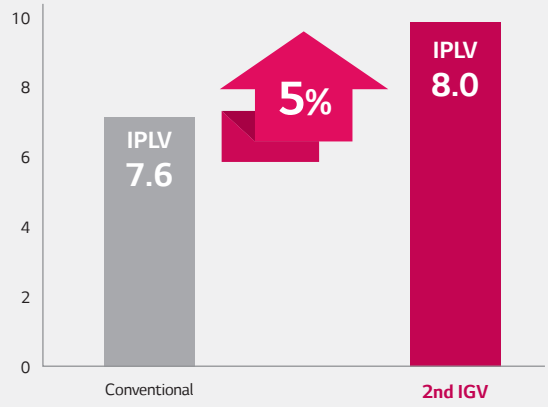


Flow rate control by tilting 2nd vane
(Tandem type return channel)

Comparison of 1 stage and 2 stage



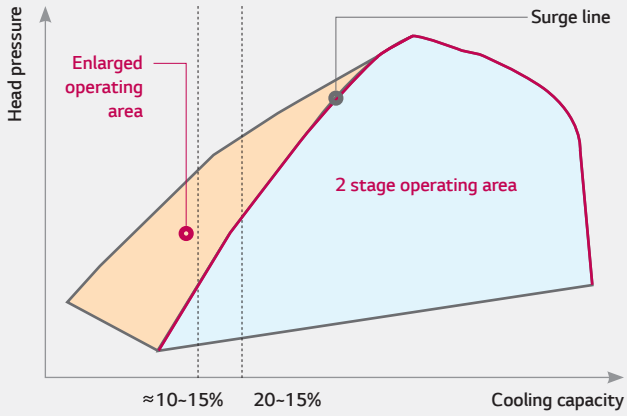
Comparison of conventional and 2nd IGV



Wide Operation Range

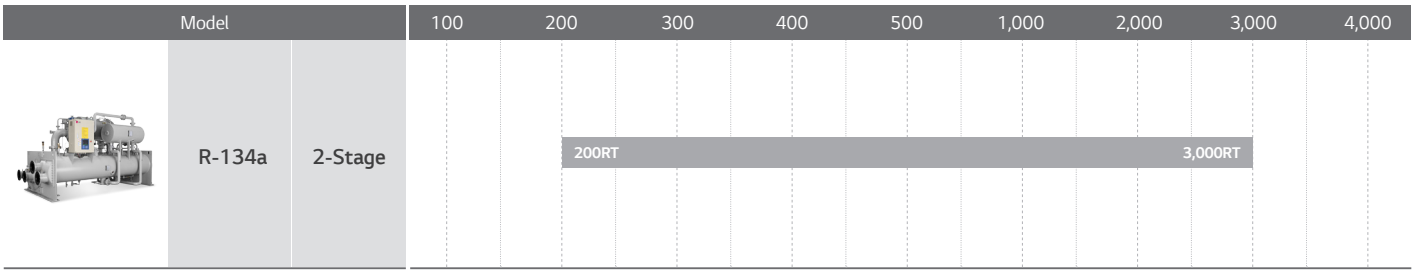
Stable operation at low-load condition by adopting surge prevention device such as 2nd IGV and variable diffuser.

- Enlarge safety operation range at low-load
- Prevent discharge gas backflow (surge)



Centrifugal compressor characteristic map

Line-up



* The above range is based on the nominal tonnage.

Specification

RCWF Series (50/60Hz) / AHRI condition

Model	Cooling Capacity		Evaporator				Condenser			
	USRT	kW	Conn. Size (mm)	Flow rate (l/s)	Press. Drop (mH_2O)	Passes	Conn. Size (mm)	Flow rate (l/s)	Press. Drop (mH_2O)	Passes
RCWFHA0	200	703	150	30	3.44	2	150	35	5.02	2
RCWFHA1	250	879	150	38	3.45	2	150	44	5.07	2
RCWFHA2	275	967	200	42	3.43	2	200	48	5.04	2
RCWFHA3	300	1,055	200	46	3.43	2	200	53	5.10	2
RCWFHB1	400	1,407	200	61	3.44	2	200	69	5.02	2
RCWFHB2	450	1,583	200	68	3.43	2	200	78	5.05	2
RCWFHB3	500	1,758	200	76	3.44	2	200	87	5.07	2
RCWFHC1	550	1,934	200	84	3.44	2	200	95	5.04	2
RCWFHC2	600	2,110	200	91	3.45	2	200	104	5.06	2
RCWFHC3	700	2,462	250	107	3.44	2	250	121	5.05	2
RCWFHD1	800	2,813	250	122	5.68	2	250	138	8.71	2
RCWFHD2	900	3,165	300	137	5.68	2	300	156	7.06	2
RCWFHD3	1,000	3,517	300	152	5.68	2	350	172	7.24	2
RCWFHE1	1,100	3,869	300	167	6.21	2	350	190	8.76	2
RCWFHE2	1,300	4,572	300	198	8.09	2	350	224	11.10	2
RCWFHE3	1,500	5,275	350	228	8.09	2	400	258	11.14	2
RCWFHF1	1,600	5,627	350	244	6.79	2	400	278	9.58	2
RCWFHF2	1,800	6,330	400	274	6.90	2	400	312	9.61	2
RCWFHF3	2,000	7,034	400	304	6.94	2	450	346	10.55	2
RCWFHG1	2,150	7,561	450	327	2.15	1	450	373	2.70	1
RCWFHG2	2,350	8,265	450	358	2.07	1	500	407	2.69	1
RCWFHG3	2,950	10,375	500	449	2.74	1	500	512	3.41	1

Note:
1. RT = 3,024 kcal/hr = 3.517kW, 1mmH_2O = 9.8kPa
2. Operation condition:
   • Evaporator: Entering temperature: 12.2˚C, Leaving temperature: 6.7˚C
   • Condenser: Entering temperature: 29.4˚C, Leaving temperature: 35˚C
3. The fouling factor of chilled water: 0.018m^2·˚C /kW
4. The fouling factor of cooling water: 0.044m^2·˚C /kW
5. Due to our policy of innovation, some specification can be changed without prior notification.
   All data in this table have been rated in accordance with AHRI Standard 550/590.
6. Please contact us, if you want a specification that not be included in table. (Customization available on request)

LG Electronics, Home appliance & Air solution company
Two IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, 150-945, Korea.

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