YORK®
Water – Cooled Chillers
Operational Range

All chillers are electric driven and use refrigerant HFC-134a unless otherwise noted*

Johnson Controls

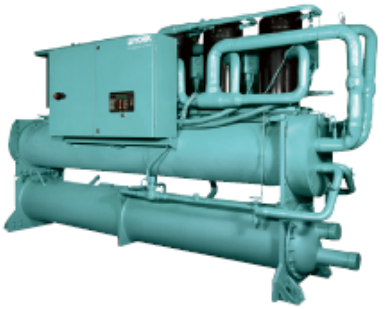
50 - 200 TR
175 - 630 kW

Model YCWL – scroll compressor *

Refrigerant: HFC-410A

Unique Features: heat-pump capability (non-reversing type), standard BAS communications, brine to 15°F (-9°C), remote-condenser option, reduced Minimum Circuit Ampacity option

Ideal Applications: comfort cooling and process / industrial cooling



Chiller Limits:

- Minimum leaving chilled water temp (without brine): **40 ºF (4 ºC)**
- Minimum leaving chilled water temp (with brine): **15 ºF (-9 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **65 ºF (18 ºC)**
- Maximum leaving condenser water temperature: **138 ºF (59 ºC)**
- Minimum & Maximum flow rate (Cooler) : **60 gpm (4 l/s) / 650 gpm (42 l/s)**
- Minimum & Maximum flow rate (Condenser) : **90 gpm (6 l/s) / 700 gpm (45 l/s)**
- Starter type and voltages availability:
  - ACL = **60 Hz: 200,230,380,460,575V**
  - ACL = **50 Hz: 380,400,415V**

Johnson Controls

200 - 435 TR
700 - 1530 kW

Model YR – screw compressor

Unique Features: unit-mounted solid-state starter, OptiView™ control panel

Ideal Applications: comfort cooling

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **38 ºF (3 ºC)**
- Minimum leaving chilled water temp (with brine): **20 ºF (-7 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **110 ºF (43 ºC)**
- Minimum & Maximum flow rate (Cooler) : **123 gpm (8 l/s) / 3,495 gpm (223 l/s)**
- Minimum & Maximum flow rate (Condenser) : **178 gpm (11 l/s) / 5,036 gpm (322 l/s)**
- Starter type and voltages availability:
  - SSS = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600V**
  - SSS = **50 Hz: 346,380,400,415,440V**
  - ACL = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600V**
  - ACL = **50 Hz: 346,380,400,415,440V**
  - Others starter types **: Star delta , Auto transformer, Primary reactor**

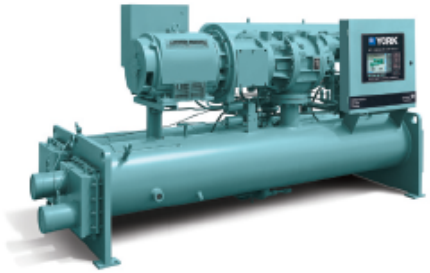
Johnson Controls

115 - 430 TR
405 - 1510 kW

Model YS – screw compressor

Unique Features: heat-pump capability, customizable, OptiView™ control panel

Ideal Applications: process / industrial cooling



Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **20 ºF (-7 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **140 ºF (60 ºC)**
- Minimum & Maximum flow rate (Cooler) : **97 gpm (6 l/s) / 8,541 gpm (546 l/s)**
- Minimum & Maximum flow rate (Condenser) : **209 gpm (13 l/s) / 9,822 gpm (628 l/s)**
- Starter type and voltages availability:
  - SSS = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160V**
  - SSS = **50 Hz: 346,380,400,415,440,2300,3300V**
  - ACL = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160V**
  - ACL = **50 Hz: 346,380,400,415,440,2300,3000,3300V**
  - Others starter types **: Star delta , Auto transformer, Primary reactor**

Johnson Controls

120 - 1380 TR
420 - 4850 kW

Model YIA – low-pressure steam / hot-water absorption *

Refrigerant: water

Unique Features: OptiView™ control panel

Ideal Applications: sites with waste heat or limited electricity

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **40 ºF (4 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **45 ºF (7 ºC)**
- Maximum leaving condenser water temperature: **120 ºF (49 ºC)**
- Minimum & maximum flow rate (Cooler) : **60 gpm (4 l/s) / 4,000 gpm (256 l/s)**
- Minimum & maximum flow rate (Condenser) : **75 gpm (5 l/s) / 5,500 gpm (351 l/s)**
- Energy supply type:
  - YIA Steam @ **15 psig (1 bar)** @ **337 ºF (169 ºC)**
  - YIA Hot water @ **175 ºF (79 ºC) up to 266 ºF (130 ºC)**

Johnson Controls

200 - 700 TR
700 - 2460 kW

Model YPC – high-pressure steam / oil / gas absorption *

Refrigerant: water

Unique Features: simultaneous cooling and heating

Ideal Applications: sites with waste heat or limited electricity

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **41 ºF (5 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **68 ºF (20 ºC)**
- Maximum leaving condenser water temperature: **110 ºF (43 ºC)**
- Minimum & maximum flow rate (Cooler) : **60 gpm (4 l/s) / 4,000 gpm (256 l/s)**
- Minimum & maximum flow rate (Condenser) : **75 gpm (5 l/s) / 5,500 gpm (355 l/s)**
- Energy supply type:
  - YPC Steam = **120psig (8 bar) @ 365ºF (185ºC)**
  - YPC Direct Fired natural gas/oil combustion air flow max. **– 117,000 SCF (68.800 Nm3/h)**

Johnson Controls

215 - 380 TR
755 - 1340 kW

Model YMC² – magnetic centrifugal compressor

Unique Features: 30% less refrigerant, 73 dBA, OptiView™ control panel, OptiSound™ control, OptiSpeed™ variable-speed drive

Ideal Applications: comfort cooling, facilities requiring low sound levels, green / LEED® buildings

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **24 ºF (-4 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **110 ºF (43 ºC)**
- Minimum & Maximum flow rate (Cooler) : **210 gpm (13 l/s) / 2,647 gpm (169 l/s)**
- Minimum & Maximum flow rate (Condenser) : **160 gpm (10 l/s) / 4,762 gpm (304 l/s)**
- Starter type and voltages availability:
  - VSD = **60 Hz: 380,440,460,480V**
  - VSD = **50 Hz: 380,400,415V**

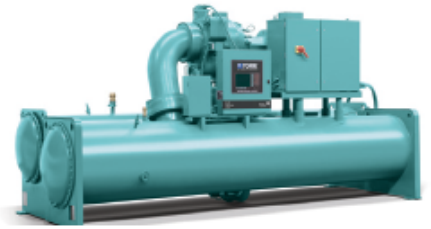
Johnson Controls

250 - 3000 TR
880 - 10,550 kW

Model YK – centrifugal compressor

Unique Features: OptiSpeed™ variable-speed drive, heat-recovery capability, quick re-start feature, OptiSound™ control, OptiView™ control panel

Ideal Applications: comfort cooling, heat-recovery sites, data centers



Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **20 ºF (-7 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **155 ºF (68 ºC)**
- Minimum & Maximum flow rate (Cooler) : **110 gpm (7 l/s) / 25,125 gpm (16.070 l/s)**
- Minimum & Maximum flow rate (Condenser) : **160 gpm (10 l/s) / 29,185 gpm (1.865 l/s)**
- Starter type and voltages availability:
  - VSD = **60 Hz: 460,575,2300,3300,4160V**
  - VSD = **50 Hz: 400,3300,6000,10000V**
  - SSS = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160,6000,6600V**
  - SSS = **50 Hz: 346,380,400,415,440,2300,3300,6000,6600,10000V**
  - ACL = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160,6000,6600,13800V**
  - ACL = **50 Hz: 346,380,400,415,440,2300,3000,3300,6000,6600,10000V**
  - Others starter types **: Star delta , Auto transformer, Primary reactor**

Johnson Controls

2000 - 6000 TR
7000 – 21,100 kW

Model YD – centrifugal compressors

Unique Features: smallest footprint per cooling ton in the industry, single OptiView™ control panel

Ideal Applications: district cooling, retrofits, building additions

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **24 ºF (-4 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **110 ºF (43 ºC)**
- Minimum & Maximum flow rate (Cooler) : **1,257 gpm (80 l/s) / 44,035 gpm (2.813 l/s)**
- Minimum & Maximum flow rate (Condenser) : **1,661 gpm (1.064 l/s) / 40,000 gpm (2.556 l/s)**
- Starter type and voltages availability:
  - ACL = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160,6000,6600,13800V**
  - ACL = **50 Hz: 346,380,400,415,440,2300,3000,3300,6000,6600,10000V**
  - Others starter types **: Star delta , Auto transformer, Primary reactor**

Johnson Controls

500 - 2500 TR
1760 - 8800 kW

Model CYK – compound centrifugal compressors

Unique Features: high-head and heat-pump capability

Ideal Applications: air-cooled condensing, brine chilling, heat pump, and process / industrial cooling

Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **5 ºF (-15 ºC)**
- Maximum evaporator entering fluid temperature: **104 ºF (40 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **170 ºF (77 ºC)**
- Minimum & Maximum flow rate (Cooler) : **300 gpm (19 l/s) / 18,000 gpm (150 l/s)**
- Minimum & Maximum flow rate (Condenser) : **350 gpm (22 l /s) / 27,000 gpm (1.725 l/s)**
- Starter type and voltages availability:
  - ACL = **60 Hz: 200,208,230,240,380,416,440,460,480,575,600,2300,3300,4000,4160,6000,6600,13800V**
  - ACL = **50 Hz: 346,380,400,415,440,2300,3000,3300,6000,6600,10000V**
  - Others starter types **: Star delta , Auto transformer, Primary reactor**

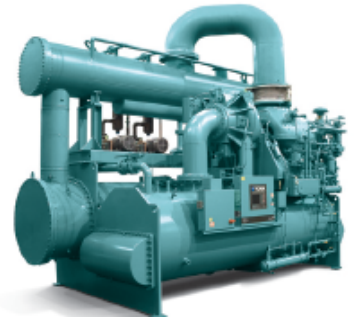
Johnson Controls

700 - 2800 TR
2460 - 9850 kW

Model YST – steam-turbine-drive centrifugal compressor *

Unique Features: packaged steam condenser, automatic start-up, OptiView™ control panel

Ideal Applications: co-generation, hybrid plants



Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving steam condenser water temperature: **115 ºF (68 ºC)**
- Minimum & maximum flow rate (Cooler) : **515 gpm (33 l/s)/ 25.125 gpm (1.605 l/s)**
- Minimum & maximum flow rate (Condenser) : **528 gpm (34 l/s) / 29,185 gpm (1.865 l/s)**
- Energy supply type:
  - Steam : **from 60 psig (4 bar) / 307 ºF (153 ºC) to 300 psig (20 bar) / 600 ºF (316 ºC)**
  - Control Power: **460V-3-60 @ 28.6 KVA**
  - Air Supply, Instrument Quality: **100 - 120 Psig (6.5- 8 bar) @ 13.5 SCF (8 Nm3/h)**
  - City Water: **< 60ºF (16ºC) @ 3.5 gpm (0.2 l/s)**

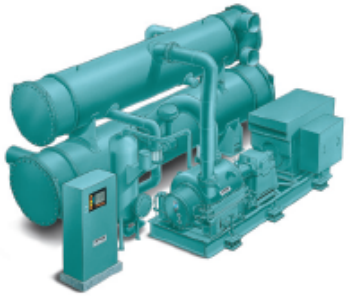
Johnson Controls

3000 - 5500 TR
10,550 - 19,350 kW

Titan Model OM – centrifugal compressor with electric-motor, steam-turbine, or gas-engine drive *

Unique Features: flexibility, longest life expectancy, easily retrofitted

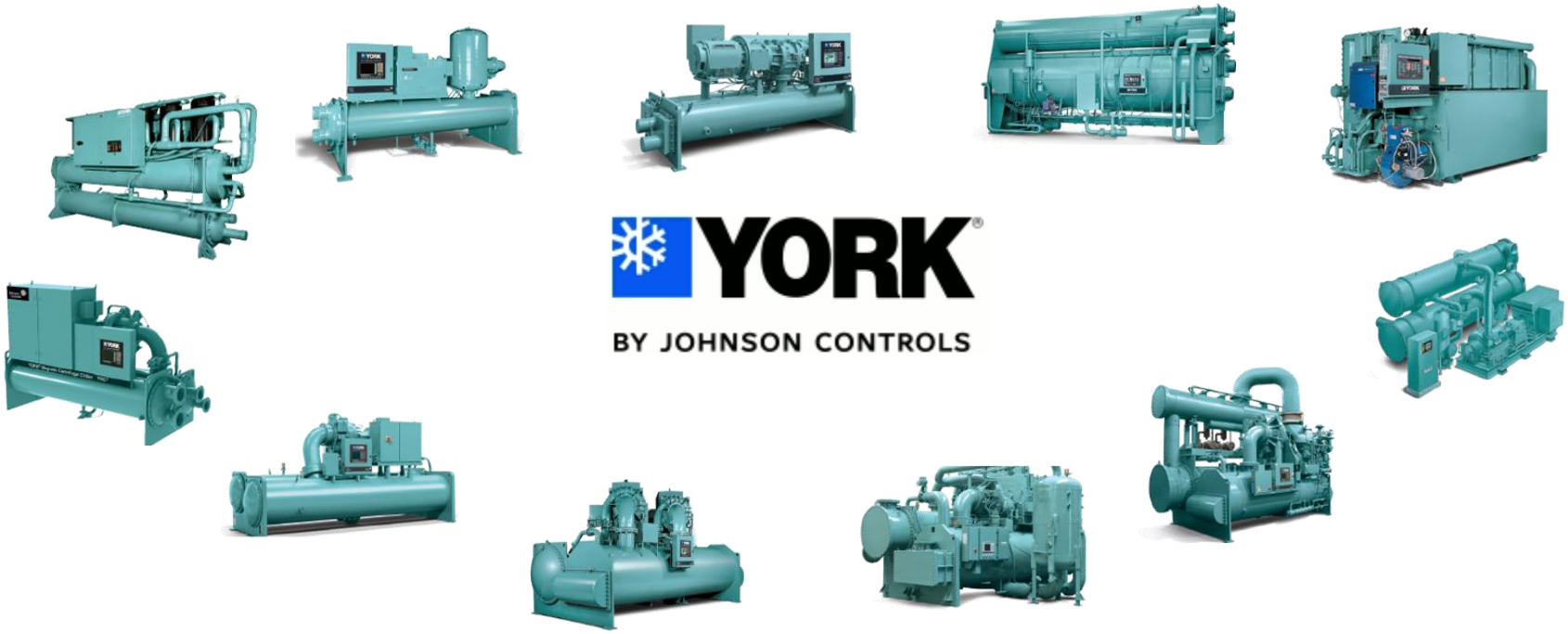
Ideal Applications: district cooling, air-cooled condensing, brine chilling, heat pump, and process / industrial cooling



Chiller Limits:

- Minimum leaving chilled water temp (without brine): **36 ºF (2 ºC)**
- Minimum leaving chilled water temp (with brine): **-20 ºF (-29 ºC)**
- Maximum evaporator entering fluid temperature: **70 ºF (21 ºC)**
- Minimum entering condenser water temperature: **55 ºF (13 ºC)**
- Maximum leaving condenser water temperature: **170 ºF (77 ºC)**
- Minimum & Maximum flow rate (Cooler) **: 1,800 gpm (115 l/s) / 33,000 gpm (2.108 l/s)**
- Minimum & Maximum flow rate (Condenser) **: 2,070 gpm (132 l/s) / 33,000 gpm (2.108 l/s)**
- Starter type and voltages availability:
  - ACL = **60 Hz: 2300,3300,4000,4160,6000,6600,13800V**
  - ACL = **50 Hz: 2300,3000,3300,6000,6600,10000V**
  - Others starter types **: Auto transformer, Primary Reactor , Solid State**
- Alternative energy supply Steam **: 15 (1 bar) to 750 psig (51 bar) and 250 to 900ºF (121 to 482ºC)**

Johnson Controls



For a condition requirement outside of the range presented in this document, contact the LTS application engineering department for a special analysis.

(Access the most current contact list, under "Sales Aids" via the Systems or Agent Home Page)

Johnson Controls