

SALES SUPPORT

YZ Facts and Features
Form: 161.01-SS3 (1217)



Technology Choices

Feature	YORK YZ
Compressor	Centrifugal single stage
Refrigerant	R-1233zd
Capacity Range	581-3516 kW (165-1000 Tons)
Motor Type	Hermetic, high-speed induction
Bearings	Magnetic bearings
VGD	Standard
Capacity control	VGD + VSD
VSD	Standard
Filter for VSD	Filter optional for all drives: 0.95 fundamental power factor standard (<30% TDD), fundamental power factor 0.98 with filter (<5% TDD)
VSD Circuit Withstand Rating	VSD dependent; 65,000 kVA (P033, P042,) 100,000 kVA (P078, P102, P128)
Motor bearing and winding RTDs	Standard (2 bearing RTDs, 6 winding RTDs)
Shells (evaporator & condenser)	Rolled carbon steel plates with fusion welded seams or carbon steel pipe. Carbon steel tube sheets.
Water side design working pressure (DWP)	1034 kPa (150 psig) standard; 2070 kPa (300 psig) by SQ only
Refrigerant side design working pressure (DWP)	345 kPa (50 psig) standard

Technology Choices Continued	
Tubes (evaporator & condenser)	19 mm (3/4") standard; 25.4 mm (1") optional OD copper alloy high-efficiency, externally and internally enhanced, skip fin design
Pressure vessel codes	ASME, GB150, GB151, PED, ASME + CRN
Evaporator suction baffle	Standard
Evaporator liquid sight glass	38 mm (1.5") sight glass - side of evaporator
Evaporator relief valves	Dual or single (with optional isolation valve)
Evaporator isolation valves	Optional
Evaporator refrigerant charging valve	25.4 mm (1") charging valve
Number of passes	1,2,3 pass
Condenser discharge gas baffle	Standard
Subcooler	Standard
Condenser liquid sight glass	38mm (1.5") sight glass – side of condenser
Condenser relief valves	Dual
Waterboxes material	Steel waterboxes, steel water baffles for required pass arrangements
WB drain & vent connections	19mm (3/4")
Refrigerant flow control	Variable orifice
OptiView control panel	Standard
Required purge unit efficiency	Meets ASHRAE Standard 147; at most one unit mass of refrigerant is purged per one unit mass of air removed by the unit.
UL compliance	Yes

Accessories & Options

Option		YORK YZ
VSD	VSD options	Single point power connection with disconnect switch
	VSD cooling Hx protection	None as standard; sediment accumulator as optional
	Incoming customer wiring	460V, 60Hz 400V, 50Hz/60Hz 380V, 50Hz/60Hz 415V, 50Hz
Heat Exchangers	Tube wall thickness	0.635 mm (0.025") wall as standard; 0.711 mm (0.028") as optional
	Factory tube testing	None as standard; Eddy current testing as optional
	Evaporator thermal insulation	SAT: 19 mm (3/4") standard, 38 mm (1.5") and none optional
		NTE: 19 mm (3/4") standard, 32 mm (1.25") and none optional
WUX: 19 mm (3/4") standard, 25.4 mm (1"), 38 mm (1.5"), and none optional		
Waterboxes	Waterbox design	Compact as standard; Marine by SQ only
	Design working pressure	1034 kPa (150 psig) as standard; 2070 kPa (300 psig) by SQ only
	Hinges	None as standard; 1034 kPa (150 psig) as optional both sides, 2070 kPa (300 psig) by SQ only
	Corrosion protection	None as standard; epoxy coated water box, tube sheets as optional
	Nozzle connections	Grooved as standard; flanges as optional
Unit Configuration	Connections	Standard 1034 kPa (150 psig), ANSI/AWWA C-606 or HG20615 standard for grooved and shouldered joints
	Refrigerant isolation valves	Optional; compressor discharge line & refrigerant liquid line
	Ability to isolate refrigerant charge in condenser	None as standard; isolation valves as optional
	Recommended chilled water strainer	Max 3.2mm (1/8") perforated holes in chilled water line
	Flow switches in the evaporator & condenser water nozzles	Thermal flow switch as standard; ship loose paddle flow switch or differential pressure switch optional
	Insulation (where is it applied?)	Standard – partial motor housing; Optional - suction connection, auxiliary tubing
	Paint	Caribbean blue as standard; Amerlock 400, Amershield as optional
	Isolation mounting	Standard : 4 neoprene mounts - 25.4 mm (1") operating height, springs optional
	Communication interface	None as standard; BACNET, MODBUS, N2, and LON optional
	Smart-Equip board & SESP package	Optional

Accessories & Options Continued

Shipment	Unit wrapped before shipment	Partial wrapping as standard; complete chiller wrapping optional
	Shipment forms	SAT: Form 1 standard; Form 2, 3, 7, and 11 optional
		NTE: Form 2 standard; Form 3, and 7 optional
		WUX: Form 2 standard; Form 3, 7, and 11 optional
	Shipping skids	None as standard; shipping skids optional
Long term storage	None as standard; LTS as optional	

Application Range

Application	YORK YZ
Minimum load (assuming AHRI unloading)	Unloading to 10% standard; hot gas bypass to 0-10% as optional
Permissible temperature range at installation location	4.4°C to 40.0°C (40°F to 104°F)
Permissible water flow rates (evaporator)	0.91m/s to 3.66m/s (3.0 fps to 12.0 fps); Two pass units limited to 134 kPa (45ft H ₂ O) PD; Three pass units limited to 201 kPa (67.5ft H ₂ O) PD
Permissible water flow rates (condenser)	1.0m/s to 3.66m/s (3.3 fps to 12.0 fps); Two pass units limited to 134 kPa (45ft H ₂ O) PD; Three pass units limited to 201 kPa (67.5ft H ₂ O) PD
Max permissible flow change rate	50% flow change rate in one minute
Temperature ranges	Standard comfort cooling, process brine cooling, ice storage duty [when max lift is 41°C (75°F) or less], Inverted duty
Min ECWT at initial startup	As low as 16.7°C (30°F) colder than standby chilled water temperature
Brine applications	SQ only

YZ Facts and Features
Form: 160.01-SS3 (1217)



Internal Distribution
SAVE OUR NATURAL RESOURCES. THINK BEFORE YOU PRINT
Copyright© by Johnson Controls 2017
Form: 161.01-SS3
Issue Date: December 2017
Supersedes: None
Subject to change without notice
ALL RIGHTS RESERVED WORLDWIDE

