

Chiller Solutions M-Letter M-21-13

Internal Communication – San Antonio and Nantes Sourced Chillers

Falling Film Evaporators on YK Chillers Now Available up to 1,800 TR (6,330 kW)!



YK chillers previously had falling film evaporators up to 1,000 TR (3,517 kW). New shell codes have been added in the October 13.05a YORKworks release extending the availability of falling film evaporators up to 1,800 TR (6,330 kW). This M-letter is specifically for San Antonio and Nantes sourced chillers only. A letter specific to Wuxi sourced YK chillers will be distributed shortly.

These new evaporators reduce chiller refrigerant charge, up to 35%, helping projects qualify for the maximum number of LEED points under the Enhanced Refrigerant Management credit (EAc4).

Compressor	Shell Length ft (m)	Old Evaporator Shell Codes	New Falling Film Evaporator Shell Codes
H9	14 (4.267) 14 (4.267)	KC, KD, K8, K9, K0 MQ, MR, MS, M2, M3, M4	IB, ID, IF, IH, I2, I4, I6, I8 MB, MD, MF, M5, M7, M8
K1	14 (4.267) 14 (4.267) 16 (4.877) 14 (4.267) 16 (4.877)	KT, KV, KW, KX, K5, K6, K7 MQ, MR, MS, M2, M3, M4 NQ, NR, NS, N2, N3, N4 PQ, PR, PS, P2, P3, P4 QQ, QR, QS, Q2, Q3, Q4	IB, ID, IF, IH, I2, I4, I6, I8 MB, MD, MF, M5, M7, M8, M9 NB, ND, NF, N5, N7, N8, N9 PB, PD, PF, P5, P7, P8 QB, QD, QF, Q5, Q7, Q8
K2	14 (4.267) 16 (4.877) 14 (4.267) 16 (4.877)	MQ, MR, MS, M2, M3, M4 NQ, NR, NS, N2, N3, N4 PQ, PR, PS, P2, P3, P4 QQ, QR, QS, Q2, Q3, Q4	MB, MD, MF, M5, M7, M8, M9 NB, ND, NF, N5, N7, N8, N9 PB, PD, PF, P5, P7, P8 QB, QD, QF, Q5, Q7, Q8
K3	16 (4.877) 16 (4.877)	NQ, NR, NS, N2, N3, N4 QQ, QR, QS, QT, QV, Q2, Q3, Q4	NB, ND, NF, N5, N7, N8, N9 QD, QF, QH, Q5, Q7, Q8, Q9

Effective with the October YORKworks 13.05a release, selections will only yield results with falling film evaporators (where falling film evaporators are available). The ability to rate chillers with either flooded or falling film evaporators will continue to be available in YORKworks.

The SAT and Nantes factories will accept Factory Order Forms for existing projects with flooded evaporators until further notice.

Comments or Questions?

Contact Us ►

Falling Film Evaporators for YK up to 1,800 TR (6,330 kW)

FREQUENTLY ASKED QUESTIONS

What is the benefit of the falling film evaporator?

The benefit of the falling film evaporator design is reduced chiller refrigerant charge, up to 35%. This helps to qualify for the maximum number of LEED points under the Enhanced Refrigerant Management credit (EAc4).

What kind of reduction in refrigerant charge can I expect to see between a unit with a flooded evaporator and a unit with a falling film evaporator on a unit with similar performance?

Chiller refrigerant charge is reduced up to 35% on units with a falling film evaporator design as compared to a unit with a flooded evaporator. In the example below, a 1300 TR (4570 kW) chiller at a 0.571 kW/ton (6.181 COP), standard AHRI conditions, with a flooded evaporator has 3,230 lbs (1465 kg) of refrigerant. A similar sized chiller (same tube count) and similar performance, with a falling film evaporator, has 1,068 lbs (484 kg) less refrigerant charge!

Flooded Evaporator

Issue Date: 05/13 Rating Program: LTC
 Project: Project Rev: v1_130.idd
 Engineer: Sales Eng Date: 09/10/13
 Customer: customer Page: 1 of 1
 Software Version: YW 13.04

Hybrid Falling Film Evaporator

Project: Rating Program: LTC v1_132.idd
 Engineer: Software Version: YW 13.05
 Customer: Date: 09/10/13

MODEL	YKM4M4K2-DAG	(MOTOR SELECTED BY PROGRAM)	
REFRIGERANT (LB 134A)	3230	GEAR CODE	TZ(CALC)
RATED NET CAPACITY (TR)	1300	SPECIFIED NET CAPACITY (TR)	1300
INPUT POWER (KW)	742	MAX MOTOR LOAD (KW)	781
VOLTAGE / HZ	460 / 60		
ORIFICE (VARY)	VALVE:3	OPTISOUND CONTROL	YES
ISOLATION VALVE	YES	A-Weighted SPL (dBA)	82
FLA	1071	LRA	6440
FULL LOAD (kW/TR)	0.571	IPLV	0.485

SALES REPORT

Unit Specifications			
Model	YKM8M4K2-DAG	Refrigerant	R134A
Rated Net Capacity (Tons)	1300	Refrigerant Charge (lb)	2162
Specified Net Capacity (Tons)	1300	A-Weighted SPL (dBA)	82
Full Load (kW/Ton)	0.569	IPLV (kW/Ton)	0.485
Input Power (kW)	740	Max Motor Load (kW)	781
Voltage / Hz	460 / 60	Gear Code	TZ
FLA (Amps)	1068	OptiSound Control	Y
LRA (Amps)	6440	Isolation Valve	Y
Inrush Amps	0	Variable Orifice	VALVE:4
Min Circuit Amps	1335	Max Circuit Breaker Amps	2000
Condenser Gas Inlet Type	Diffuser	Oil Cooler	Refrig chl

At what capacities are falling film evaporators available on YK chillers?

The falling film evaporator design is now available on YK chillers up to about 1800 TR (6,330 kW) at standard AHRI conditions. The falling film evaporator design was initially released up to about 1,000 TR (3,517 kW) in October 2010. With this current release, the falling film design is available up to 1,800 TR (6,330 kW).

Can I still get a chiller with a flooded evaporator?

If you run a selection in YORKworks, only falling film evaporator options will be provided in the selection list of chillers (where falling film evaporators are available). Chiller models with flooded evaporators will not show in the selection list (where falling film evaporator options exist).

You will still be able to run a rating with flooded evaporators. The factory will continue to accept Factory Order Forms for existing projects with flooded evaporators until further notice.

Comments or Questions?

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