DAIKIN

ZUW

Single Screw Water Cooled Chiller

GB/T 19001
CQM-42-1998-0263-0001
MANAGEMENT SYSTEM
CNAS C002-M
ISO9001

GB/T 24001
CQM-42-1998-0263-0002
MANAGEMENT SYSTEM
CNAS C002-M
ISO14001

GB/T 28001
CQM-42-1998-0263-0003
MANAGEMENT SYSTEM
CNAS C002-M
ISO45001

Contents

Introduction

Since 1970s, with the most ecological design,Daikin single screw product series has been approved as the most efficient and reliable product in the world. It's unmatched advantage at various applications attracted millions of customers globally.

Daikin single screw product ZUW series use R134a as refrigerant, which has approved as environmental friendly and most popular"Green" refrigerant in the world. Now, Daikin is releasing new generation of ZUW, which has supreme high efficiency and is expected to leading water cooled screw chiller in the industry.

Nomenclature

ZUW Y 6M2K S F F3012 M E 2 C2612 D K 2 N H C A

- ZUW: Single screw water cooled chiller
- Y: Starting method: Y : Star-delta; S:Solid state
- 6M2K: Compressor code
- S: Refrigerant circuits
- F: Power supply
- F3012: Evaporator type: F: Falling film E: Flooded Diameter: 26 inch, Length: 12 feet
- M: Evaporator tube number code
- E: Evaporator tube material
- 2: Evaporator flow passes
- C2612: Condenser type: C: Shell & tube N: Shell & tube with built-in oil separator Diameter: 26 inch, Length: 12 feet
- D: Condenser tube number code
- K: Condenser tube material
- 2: Condenser flow passes
- N: Application code N: Normal B: Hot gas bypass
- H: Economizer code H: Vertical N: None
- C: Refrigerant code C: R134a A: R410A
- A: Product platform code

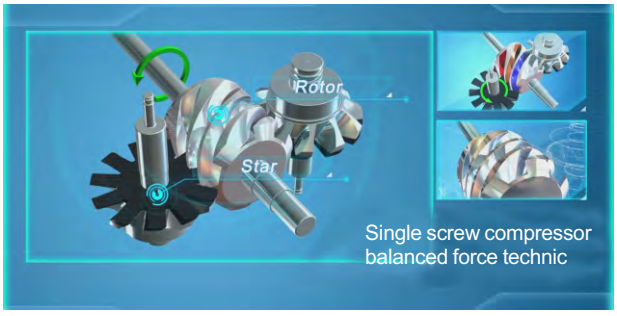
Note: Power supply : F:380V/50Hz/3ph G:400V/50Hz/3ph K:415V/50Hz/3ph U : 380V/60Hz/3ph R:460V/60Hz/3ph

Features and Benefits

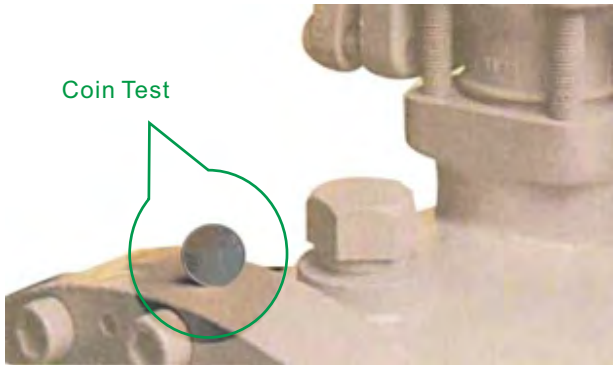
Core Technology

Single Screw Compressor

- Daikin adopt single screw compressor unique design, which has one main screw meshing with twin star rotors to produce volumetric compression cycle. Due to the main rotor is well balanced in both radial and axial direction, the compressor bearing has extremely high reliability and its design lifespan can be as long as 100,000 hours.



- Casted steeled 6 teeth main rotor coasts with aluminum film and 11 teeth star rotor in “silver shield” composite material (imported from Netherlands). Mesh of metal main screw and non-metaled stars result in zero gap and low leakage. High efficiency can be produced in this way.
- The two stars symmetrical lay on two sides creating dual sound waves in opposite direction which eliminate the sound from the inside, resulting in sound pressure level lower than 75dBA.
- Lower vibration is good at long-term and high efficient operation for unit and water system. Screw and rotor teeth ratio is 6:11, one circle of rotate screw will induce 12 times discharge. This design can disperse and minimize discharge pulse, while make discharge more balance and steady. The vibration peak is lower to 0.07 in/s.



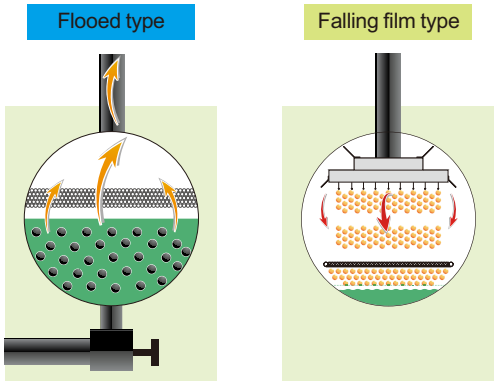
Note: The coin can keep standing during operating.

High Efficiency

- The energy efficiency of water cooled unit directly affects the system operation efficiency. Therefore choosing high efficiency water cooled unit could greatly reduce the operation cost, carbon emission and influence on the environment in the condition of increase energy efficiency. Daikin ZUW unit becomes the star products with high efficiency and energy saving feature. The COP could be achieving to 6.5kW/kW base on AHRI 550/590(I-P) standard condition.

Shell-and-Tube Heat Exchanger

- Vessels are typically constructed with rolled steel with tube sheets welded on each end. Tubes in the vessel are typically enhanced with special surfacing, both internally and externally, to offer premium heat transfer. The vessel’ internal structure supports a large number of heat exchanger tubes, typically made of copper.
  Water travels through tubes while refrigerant bathes tubes from bottom, known as flooded vessel, or refrigerant is spraying onto tubes from top, known as falling film type vessel. Flooded or falling film vessel, depending on design, is proven to be efficient and reliable.
  Flooded or falling firm evaporator (depending on the model) serves to boil the refrigerant from liquid to gas. Shell-and-tube type condenser aims to condense refrigerant from gas to liquid. These vessels are superior designed in compact size, tubes arrangement, overall resistance reduce to achieve outstanding heat exchange efficiency.



Lubrication System

- Lubrication oil is supplied to compressor and rotating surfaces by a separately oil separator, externally mounted vertically on the chiller or internally being integrated into the condenser (depending on the specific model). Oil separator provides sufficient oil supplying to compressor and excellent oil extraction from system at all loads. Oil recovery system makes sure oil remained in the evaporator go back to compressor.

Features and Benefits

Control Technology

MicroTech® III Controller

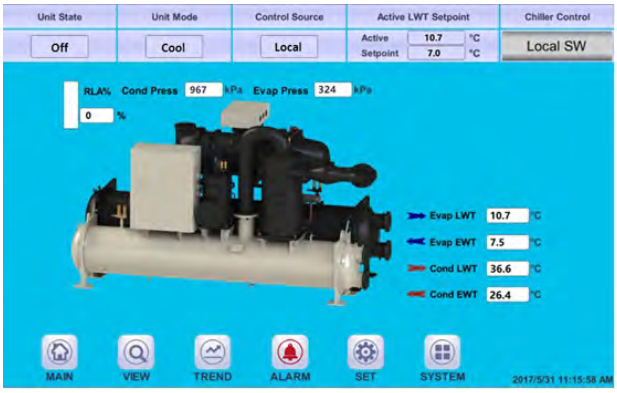
- The ZUW chiller utilizes MicroTech® III digital control electronics to prophetic manage unit operation and provide control of chilled /condensing water and cooling tower pumps.
- The compressor runs at the necessary minimum speed to maintain cooling capacity, as thus minimizing energy usage over the entire range of operating conditions. By constantly monitoring chiller status and real time data, such as evaporator leaving water temp, oil temp, motor overheat, refrigerant pressure, the MicroTech® III controller will automatically take effective measures to relieve abnormal conditions or shut the unit down if a fault occurs.

Flexible Control Technology

- The unique control feature provides seamless integration and comprehensive monitoring, control, and two-way data interaction which using industry standard protocols, such as LonWork, BACnet or Modbus. Advanced control technology provides simple and economical flexibility to use the Building Automation System of your choice without an expensive gateway panel.
- Control benefits include: easy to integrate into your BAS of choice, factory- or field-installed communications module, integrated control logic for factory options, easy-to-use local user-friendly interface, comprehensive data exchange.

Monitoring and Protection

- MicroTech® III applied latest micro-control technology and configured 7'or 12' colorful touch screen with user-friendly design to convenient operation and maintenance. English/Chinese version can be switched easily. Operators can view all running status & parameters, change setting points and clear alarms, as well as download data logging to PC.



Display

- Leaving chilled water setting temp
- Evaporator entering /leaving water temp
- Condenser entering /leaving water temp
- Compressor suction/discharge pressure
- Compressor discharge temp/superheat
- Compressor current percentage
- Alarm information

Alarm Protection Function

- Refrigerant high/low pressure protection
- Phase monitor: phase unbalance/failure/fault
- Chilled water freezing protection
- Motor overheat protection
- Compressor abnormal frequently start protection
- Oil level, oil different pressure protection
- Low / high voltage protection

Technical Data - ZUW in 50Hz

Model	Cooling capacity		Power Consumption	Efficiency		Evaporator		Condenser		RLA	Oil Charge	Chiller Weight	Operation Weight
						Flow Rate	Pressure Drop	Flow Rate	Pressure Drop				
	Tons	kW	kW	kW/ton$_R$	COP	L/s	kPa	L/s	kPa	A	L	kg	kg
ZUWY6Q2OSF/F3012-JE-2/C2612-BK-2-NHCA	517.8	1821	279.6	0.5400	6.513	78.41	39.7	97.25	60.1	474.4	60.0	8204	9121
ZUWY6Q2OSF/F3012-KE-2/C2612-BK-2-NHCA	515.9	1814	279.5	0.5418	6.492	78.11	48.1	96.93	59.7	474.1	60.0	8112	9048
ZUWY6Q2OSF/F3012-ME-2/C2612-CK-2-NHCA	512.0	1801	281.6	0.5499	6.395	77.53	64.2	96.40	73.0	477.4	55.0	8076	8922
ZUWY6Q2OSF/F3010-PE-2/C2610-BK-2-NHCA	500.9	1762	282.6	0.5643	6.233	75.84	67.8	94.64	53.1	479.2	50.0	7580	8375
ZUWY6Q2OSF/F3009-PE-2/C2609-CK-2-NHCA	493.5	1736	288.9	0.5854	6.007	74.72	60.4	93.72	59.9	489.2	50.0	7224	7908
ZUWY6P2OSF/F3012-KE-2/C2612-CK-2-NHCA	471.7	1659	254.4	0.5393	6.521	71.42	41.1	88.57	63.3	433.6	50.0	7955	8799
ZUWY6P2OSF/F3012-ME-2/C2612-CK-2-NHCA	468.9	1649	254.2	0.5421	6.487	71.00	55.0	88.11	62.7	433.3	50.0	7857	8704
ZUWY6P2OSF/F3010-PE-2/C2610-CK-2-NHCA	459.3	1615	255.2	0.5556	6.330	69.55	58.2	86.60	45.7	434.9	45.0	7505	8300
ZUWY6P2OSF/F3009-QE-2/C2609-DK-2-NHCA	447.1	1572	263.1	0.5885	5.976	67.70	69.3	84.97	62.2	447.8	45.0	7031	7663
ZUWY6N2MSF/F3012-ME-2/C2612-DK-2-NHCA	424.5	1493	228.9	0.5392	6.523	64.27	46.1	79.70	64.9	393.3	50.0	7780	8544
ZUWY6N2MSF/F3009-PE-2/C2609-CK-2-NHCA	411.7	1448	232.1	0.5637	6.239	62.34	43.8	77.78	43.7	398.4	45.0	7193	7877
ZUWY6M2KSF/F3012-ME-2/C2612-DK-2-NHCA	397.8	1399	212.9	0.5352	6.571	60.23	41.1	74.62	58.1	368.0	50.0	7718	8482
ZUWY6M2KSF/F3010-QE-2/C2210-CK-2-NHCA	384.9	1354	220.6	0.5732	6.135	58.28	58.1	72.88	79.5	380.2	45.0	7188	7907
ZUWY5M2LSF/F3012-ME-2/C2612-DK-2-NHCA	372.5	1310	202.0	0.5424	6.484	56.40	36.6	69.99	52.1	352.6	45.0	6938	7748
ZUWY5M2LSF/F3010-QE-2/C2210-BK-2-NHCA	362.0	1273	205.1	0.5666	6.207	54.81	52.1	68.43	55.9	357.7	40.0	6158	6774
ZUWY5M2LSF/F3009-QE-2/C2209-CK-2-NHCA	357.9	1259	208.4	0.5822	6.041	54.20	46.7	67.92	56.9	363.2	40.0	6042	6616
ZUWY5L2KSF/F3012-QE-2/C2212-BK-2-NHCA	342.5	1204	186.1	0.5435	6.471	51.85	55.9	64.37	52.9	318.0	45.0	6459	7159
ZUWY5L2KSF/F3009-QE-2/C2209-BK-2-NHCA	333.8	1174	190.1	0.5696	6.175	50.54	41.3	63.15	44.7	324.5	40.0	6068	6655
ZUWY5L2KSF/F3009-RE-2/C2209-DK-2-NHCA	329.5	1159	192.6	0.5844	6.018	49.90	57.9	62.57	56.2	328.5	40.0	5950	6488
ZUWY5L2KSF/F3009-RE-2/C2209-FK-2-NHCA	327.3	1151	197.1	0.6023	5.839	49.56	57.3	62.42	77.1	335.9	40.0	5898	6409

Notes:

1. Above cooling capacity is based on AHRI 550/590(I-P) standard condition:
   ELWT:6.67℃, EEWT:12.22℃; CEWT:29.44℃, CLWT:34.61℃;
   Evaporator/Condenser water side fouling factor: 0.0176/0.0440 m²·℃/kW.
2. Power supply: 380V/50Hz/3ph.
3. Above chillers are recommended, please contact local sales for other specific models.
4. Above selections are based on ZUW-F program V1.2.8.

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Water-Cooled Water Chilling and Heat Pump Water-Heating Packages AHRI Standards 550/590 and 551/591

Technical Data - ZUW in 50Hz

Model	Cooling capacity		Power Consumption	Efficiency		Evaporator		Condenser		RLA	Oil Charge	Chiller Weight	Operation Weight
						Flow Rate	Pressure Drop	Flow Rate	Pressure Drop				
	Tons	kW	kW	kW/ton_R	COP	L/s	kPa	L/s	kPa	A	L	kg	kg
ZUWY5K2JSF/F3012-QE-2/C2212-DK-2-NHCA	316.9	1115	171.9	0.5425	6.483	47.98	48.7	59.55	60.6	303.1	45.0	6396	7063
ZUWY5K2JSF/F3009-QE-2/C2209-DK-2-NHCA	309.1	1087	176.1	0.5696	6.174	46.81	36.1	58.48	50.2	309.7	40.0	6017	6579
ZUWY5K2JSF/F3009-RE-2/C2209-GK-2-NHCA	303.5	1067	182.3	0.6005	5.856	45.96	50.1	57.85	81.0	319.7	40.0	5873	6371
ZUWY5K2JSF/F3012-QH-2/C2212-EK-2-NNCA	276.6	972.9	158.0	0.5713	6.155	41.89	36.7	52.36	57.6	281.8	45.0	6096	6706
ZUWY5K2JSF/F3009-RH-2/C2209-FK-2-NNCA	270.0	949.3	162.4	0.6016	5.844	40.87	38.8	51.47	55.7	288.5	35.0	5473	6020
ZUWY4J2JSF/F2610-PH-2/C2210-EK-2-NNCA	236.5	831.6	144.9	0.6128	5.739	35.80	50.7	45.21	42.0	244.9	40.0	4587	5046
ZUWY4I2JSF/F2610-PH-2/C2210-GK-2-NNCA	207.6	730.2	124.6	0.5999	5.862	31.44	40.4	39.57	46.6	211.6	35.0	4434	4877
ZUWY4H2DSF/F2609-PH-2/C2209-GK-2-NNCA	186.1	654.4	112.5	0.6043	5.819	28.18	30.0	35.50	35.5	187.3	35.0	4254	4679

Notes:

1. Above cooling capacity is based on AHRI 550/590(I-P) standard condition:
   ELWT:6.67℃, EEWT:12.22℃; CEWT:29.44℃, CLWT:34.61℃;
   Evaporator/Condenser water side fouling factor: 0.0176/0.0440 $m^2 \cdot ℃/kW$.
2. Power supply: 380V/50Hz/3ph.
3. Above chillers are recommended, please contact local sales for other specific models.
4. Above selections are based on ZUW-F program V1.2.8.
5. The chillers less than 200 tons are outside the scope of AHRI certification.

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Water-Cooled Water Chilling and Heat Pump Water-Heating Packages AHRI Standards 550/590 and 551/591

Technical Data - ZUW* in 50Hz

Model	Cooling capacity		Power Consumption	Efficiency		Evaporator		Condenser		RLA	Oil Charge	Chiller Weight	Operation Weight
						Flow Rate	Pressure Drop	Flow Rate	Pressure Drop				
	Tons	kW	kW	kW/ton_R	COP	L/s	kPa	L/s	kPa	A	L	kg	kg
ZUWY3A2ASF/E1807-DE-2/N1807-1K-2-NNCA	54.42	191.4	36.24	0.6651	5.283	8.251	16.5	10.53	17.0	68.07	15	2235	2459
ZUWY3B2ASF/E1807-DE-2/N1807-1K-2-NNCA	65.32	229.7	43.48	0.6657	5.284	9.901	22.5	12.64	23.1	78.00	15	2235	2459
ZUWY3C2ASF/E1807-CE-2/N1807-2K-2-NNCA	80.64	283.6	53.68	0.6657	5.284	12.22	23.3	15.61	23.5	92.58	15	2280	2508
ZUWY3D2ASF/E1807-BE-2/N1807-3K-2-NNCA	91.25	321.0	60.75	0.6658	5.284	13.82	23.1	17.66	23.7	103.1	15	2306	2537
ZUWY4D2BSF/E2207-EA-2/N2207-EL-2-NNCA	101.11	355.7	65.79	0.6506	5.407	15.31	14.0	19.50	16.1	112.3	20	2822	3104
ZUWY4D2BSF/E2209-ME-2/N2209-FK-2-NNCA	106.38	374.2	65.07	0.6117	5.751	16.13	16.0	20.32	28.9	111.3	20	3056	3362
ZUWY4E2BSF/E2207-EA-2/N2207-GL-2-NNCA	121.16	426.2	81.69	0.6742	5.217	18.37	18.9	23.50	39.1	135.8	20	2780	3058
ZUWY4E2BSF/E2209-EA-2/N2209-GL-2-NNCA	125.91	442.9	79.83	0.6340	5.548	19.07	25.9	24.18	54.3	132.9	20	3008	3308
ZUWY4E2BSF/E2209-KE-2/N2209-EK-2-NNCA	128.95	453.6	78.45	0.6084	5.782	19.55	17.3	24.61	28.8	130.8	20	3112	3423
ZUWY4F2BSF/E2209-EA-2/N2209-FL-2-NNCA	140.55	494.4	88.86	0.6322	5.563	21.31	31.1	26.98	50.6	147.1	20	3029	3332
ZUWY4F2BSF/E2209-JE-2/N2209-DK-2-NNCA	144.93	509.8	87.02	0.6004	5.859	21.97	15.3	27.61	27.0	144.2	20	3161	3477
ZUWY4G2BSF/E2209-JE-2/N2209-DK-2-NNCA	166.83	586.8	101.4	0.6078	5.789	25.29	19.6	31.84	34.4	168.0	20	3161	3477

Notes:

1. Above cooling capacity is based on AHRI 550/590(I-P) standard condition:
   ELWT:6.67℃, EEWT:12.22℃; CEWT:29.44℃, CLWT:34.61℃;
   Evaporator/Condenser water side fouling factor: 0.0176/0.0440 $m^2 \cdot ℃/kW$.
2. Power supply: 380V/50Hz/3ph.
3. Above chillers are recommended, please contact local sales for other specific models.
4. Above selections are based on ZUW-F program V1.2.10.
5. The chillers less than 200 tons are outside the scope of AHRI certification.
6. ZUW* indicates a type of small capacity water cooled screw chillers. The chillers furnish flooded type evaporator and shell-and-tube type condenser with a built-in oil separator.

Technical Data - ZUW in 60Hz

Model	Cooling capacity		Power Consumption	Efficiency		Evaporator		Condenser		RLA	Oil Charge	Chiller Weight	Operation Weight
						Flow Rate	Pressure Drop	Flow Rate	Pressure Drop				
	Tons	kW	kW	kW/ton$_R$	COP	L/s	kPa	L/s	kPa	A	L	kg	kg
ZUWY4E2BSU/E2209-CH-2/N2409-CL-2-NNCA	153.1	538.4	93.52	0.6109	5.757	23.18	31.5	29.25	21.0	161.5	25	3673	4040
ZUWY4G2BSU/E2209-AH-2/N2409-BL-2-NNCA	196.7	691.7	121.3	0.6166	5.703	29.78	25.2	37.64	26.5	205.1	25	3822	4204
ZUWY4I2JSU/F2210-JH-2/C2210-4L-2-NNCA	249.3	876.9	152.6	0.6122	5.745	37.75	41.2	47.66	37.6	255.2	35	4378	4816
ZUWY4J2JSU/F2212-JH-2/C2212-4L-2-NNCA	277.7	976.5	171.3	0.6168	5.702	42.04	65.7	53.14	52.0	285.0	40	4664	5128
ZUWY5K2JSU/F2612-KH-2/C2212-6L-2-NNCA	322.6	1134	193.3	0.5991	5.869	48.83	51.4	61.45	52.6	347.8	40	5954	6550
ZUWY5K2JSU/F2612-KH-2/C2612-1L-2-NHCA	362.1	1274	203.4	0.5616	6.262	54.83	63.1	68.37	48.3	362.7	45	6553	7208
ZUWY5M2LSU/F2612-KH-2/C2612-2L-2-NHCA	421.3	1490	241.3	0.5694	6.176	64.15	83.4	80.15	51.7	419.3	45	6615	7277
ZUWY6M2KSU/F3012-PH-2/C2612-2L-2-NHCA	457.9	1610	261.0	0.5700	6.170	69.33	65.3	86.63	59.0	442.7	50	7811	8592
ZUWY6P20SU/F3012-KH-2/C2612-3L-2-NHCA	546.2	1921	312.3	0.5718	6.150	82.70	54.6	103.4	64.7	522.7	60	8125	8938

Notes:

1. Above cooling capacity is based on AHRI 550/590(I-P) standard condition:
   ELWT:6.67℃, EEWT:12.22℃; CEWT:29.44℃, CLWT:34.61℃;
   Evaporator/Condenser water side fouling factor: 0.0176/0.0440 m²·℃/kW.
2. Power supply: 380V/60Hz/3ph.
3. Above chillers are recommended, please contact local sales for other specific models.
4. Above selections are based on ZUW-F program V1.2.10.

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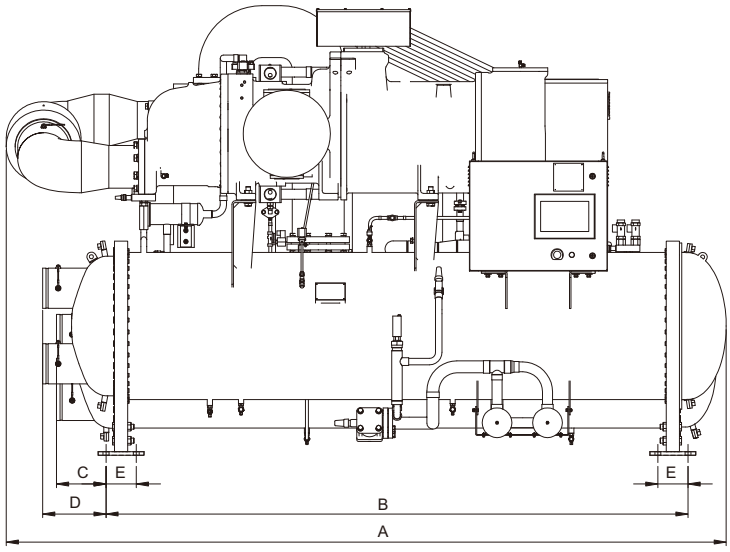
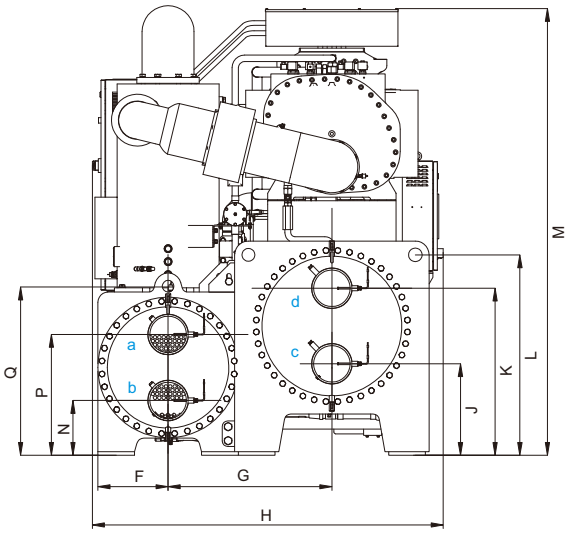
AHRI Standards 550/590 and 551/591

Dimensions

ZUW in 50Hz (With Economizer)





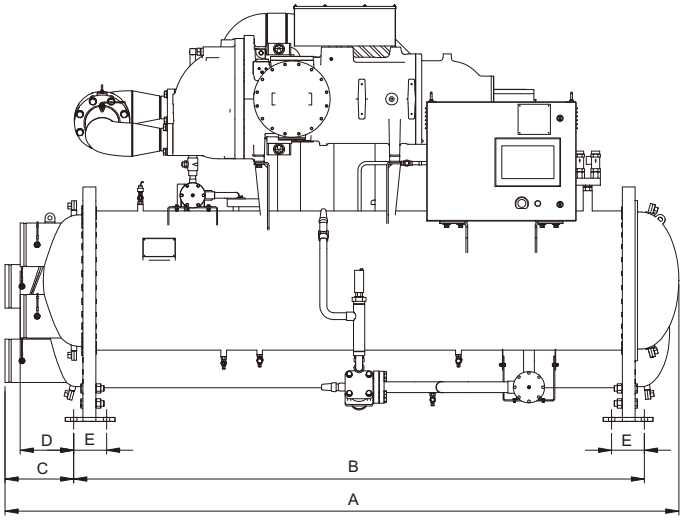
Model	Dimension(mm)							Evaporator connection size and locations (mm)					Condenser connection size and locations (mm)				
	A	B	C	D	E	H	M	G	J	K	L	OD	F	N	P	Q	OD
ZUWY5M2LSF/F3009-QE-2/C2209-CK-2-NHCA	3529	2871	450	346	165	1852	2371	893	499	911	1093	φ219	383	325	700	897	φ219
ZUWY5L2KSF/F3009-QE-2/C2209-BK-2-NHCA																	
ZUWY5L2KSF/F3009-RE-2/C2209-DK-2-NHCA																	
ZUWY5L2KSF/F3009-RE-2/C2209-FK-2-NHCA																	
ZUWY5K2JSF/F3009-QE-2/C2209-DK-2-NHCA																	
ZUWY5K2JSF/F3009-RE-2/C2209-GK-2-NHCA																	
ZUWY6P2OSF/F3009-QE-2/C2609-DK-2-NHCA	3774	2871	270	346	165	1912	2452	893	499	911	1093	φ219	383	299	659	922	φ219
ZUWY6N2MSF/F3009-PE-2/C2609-CK-2-NHCA																	
ZUWY6Q2OSF/F3009-PE-2/C2609-CK-2-NHCA	3836	2871	270	346	165	1912	2452	893	499	911	1093	φ219	383	299	659	922	φ219
ZUWY5M2LSF/F3010-QE-2/C2210-BK-2-NHCA	3726	3172	346	346	165	1852	2371	893	499	911	1093	φ219	383	325	700	897	φ219
ZUWY6M2KSF/F3010-QE-2/C2210-CK-2-NHCA	3924	3172	346	346	165	1912	2452	893	499	911	1093	φ219	383	325	700	897	φ219
ZUWY6P2OSF/F3010-PE-2/C2610-CK-2-NHCA	3924	3172	270	346	165	1912	2452	893	499	911	1093	φ219	383	299	659	922	φ219
ZUWY6Q2OSF/F3010-PE-2/C2610-BK-2-NHCA	3986	3172	270	346	165	1912	2452	893	499	911	1093	φ219	383	299	659	922	φ219
ZUWY5M2LSF/F3012-ME-2/C2612-DK-2-NHCA	4311	3757	270	346	165	1821	2430	893	499	911	1081	φ219	383	299	659	922	φ219
ZUWY5L2KSF/F3012-QE-2/C2212-BK-2-NHCA	4415	3757	450	346	165	1821	2371	893	449	911	1081	φ219	383	325	700	897	φ219
ZUWY5K2JSF/F3012-QE-2/C2212-DK-2-NHCA																	
ZUWY6Q2OSF/F3012-JE-2/C2612-BK-2-NHCA	4311	3757	270	346	165	1835	2452	893	499	911	1093	φ219	383	299	659	922	φ219
ZUWY6Q2OSF/F3012-KE-2/C2612-BK-2-NHCA																	
ZUWY6Q2OSF/F3012-ME-2/C2612-CK-2-NHCA																	
ZUWY6P2OSF/F3012-KE-2/C2612-CK-2-NHCA																	
ZUWY6P2OSF/F3012-ME-2/C2612-CK-2-NHCA																	
ZUWY6M2KSF/F3012-ME-2/C2612-DK-2-NHCA																	
ZUWY6N2MSF/F3012-ME-2/C2612-DK-2-NHCA																	

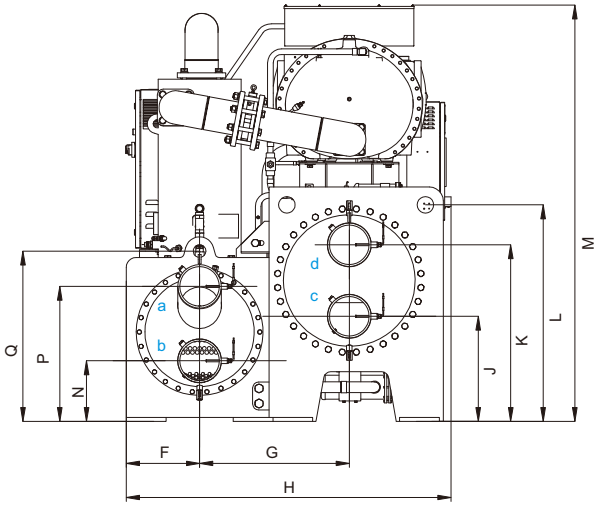
Notes:

1. a. Condenser Outlet b. Condenser Inlet c. Evaporator Inlet d. Evaporator Outlet
2. The tolerance of dimension is within 13mm.
3. The dimension of chiller include 20mm insulation for evaporator.
4. OD means the outside diameter of water connection pipe.
5. Configure solid state starter, suction valve, left or right water head connection may affect the dimension. Please contact factory.

Dimensions

ZUW in 50Hz (W/O Economizer)





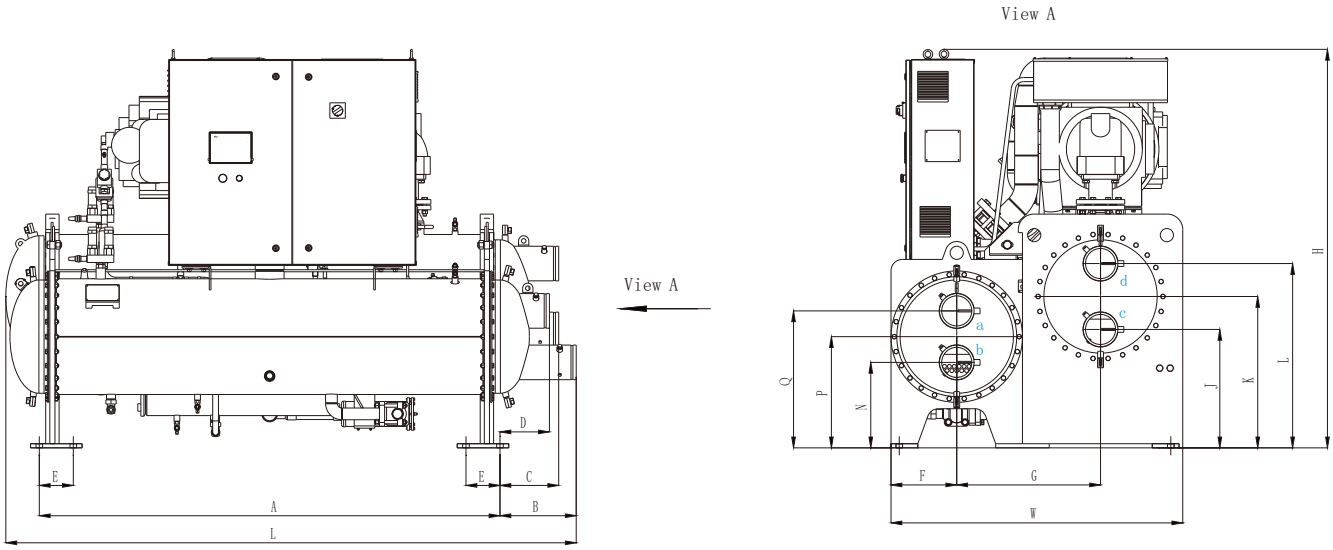
Model	Dimension(mm)							Evaporator connection size and locations (mm)					Condenser connection size and locations (mm)				
	A	B	C	D	E	H	M	G	J	K	L	OD	F	N	P	Q	OD
ZUWY4H2DSF/F2609-PH-2/C2209-GK-2-NNCA	3390	2871	346	270	165	1634	2095	753	529	889	1090	φ219	369	305	680	857	φ219
ZUWY5K2JSF/F3009-RH-2/C2209-FK-2-NNCA	3425	2871	346	346	165	1833	2339	893	499	911	1081	φ219	383	325	700	897	φ219
ZUWY4J2JSF/F2610-PH-2/C2210-EK-2-NNCA	3691	3172	346	270	165	1634	2095	753	529	889	1090	φ219	369	305	680	857	φ219
ZUWY4I2JSF/F2610-PH-2/C2210-GK-2-NNCA																	
ZUWY5K2JSF/F3012-QH-2/C2212-EK-2-NNCA	4311	3757	346	346	165	1805	2339	893	499	911	1081	φ219	383	325	700	897	φ219

Notes:

1. a. Condenser Outlet b. Condenser Inlet c. Evaporator Inlet d. Evaporator Outlet
2. The tolerance of dimension is within 13mm.
3. The dimension of chiller include 20mm insulation for evaporator.
4. OD means the outside diameter of water connection pipe.
5. Configure solid state starter, suction valve, left or right water head connection may affect the dimension. Please contact factory.

Dimensions

ZUW* in 50Hz (W/O Economizer)



Model	Dimension(mm)								Evaporator connection size and locations (mm)					Condenser connection size and locations (mm)				
	L	W	H	A	B	C	D	E	G	J	K	M	OD	F	N	P	Q	OD
ZUWY3A2ASF/E1807-DE-2/N1807-1K-2-NNCA	2674	1279	1821	2236	285	285	285	133	470	687	830	973	φ146	292	297	440	583	φ146
ZUWY3B2ASF/E1807-DE-2/N1807-1K-2-NNCA	2674	1279	1821	2236	285	285	285	133	470	687	830	973	φ146	292	297	440	583	φ146
ZUWY3C2ASF/E1807-CE-2/N1807-2K-2-NNCA	2674	1279	1821	2236	285	285	285	133	470	687	830	973	φ146	292	297	440	583	φ146
ZUWY3D2ASF/E1807-BE-2/N1807-3K-2-NNCA	2674	1279	1821	2236	285	285	285	133	470	687	830	973	φ146	292	297	440	583	φ146
ZUWY4D2BSF/E2207-EA-2/N2207-EL-2-NNCA	2769	1416	1934	2236	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4D2BSF/E2209-ME-2/N2209-FK-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4E2BSF/E2207-EA-2/N2207-GL-2-NNCA	2769	1416	1934	2236	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4E2BSF/E2209-EA-2/N2209-GL-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4E2BSF/E2209-KE-2/N2209-EK-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4F2BSF/E2209-EA-2/N2209-FL-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4F2BSF/E2209-JE-2/N2209-DK-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168
ZUWY4G2BSF/E2209-JE-2/N2209-DK-2-NNCA	3373	1416	1934	2840	370	285	240	165	698	575	735	895	φ168	319	415	540	665	φ168

Notes:

1. a. Condenser Outlet b. Condenser Inlet c. Evaporator Inlet d. Evaporator Outlet
2. The tolerance of dimension is within 13mm.
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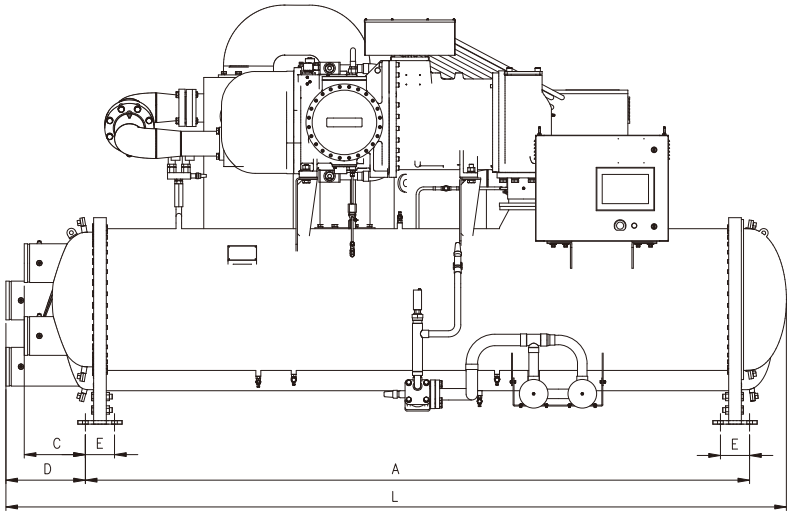
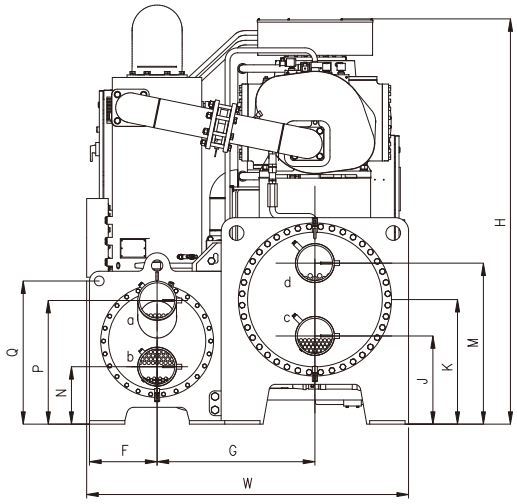
Dimensions

ZUW in 60Hz





Model	Dimension(mm)							Evaporator connection size and locations (mm)					Condenser connection size and locations (mm)				
	L	W	H	A	C	D	E	G	J	K	M	OD	F	N	P	Q	OD
ZUWY4E2BSU/E2209-CH-2/N2409-CL-2-NNCA	3294	1530	1882	2840	285	285	133	755	568	728	888	φ168	410	415	595	775	φ219
ZUWY4G2BSU/E2209-AH-2/N2409-BL-2-NNCA	3294	1530	1882	2840	285	285	133	755	568	728	888	φ168	410	415	595	775	φ219
ZUWY4I2JSU/F2210-JH-2/C2210-4L-2-NNCA	3589	1612	2051	3172	270	270	165	753	549	709	869	φ168	369	290	450	610	φ168
ZUWY4J2JSU/F2212-JH-2/C2212-4L-2-NNCA	4173	1612	2051	3757	270	270	165	753	549	709	869	φ168	369	290	450	610	φ168
ZUWY5K2JSU/F2612-KH-2/C2212-6L-2-NNCA	4276	1732	2336	3757	270	346	165	843	525	705	885	φ219	383	325	470	700	φ219
ZUWY5K2JSU/F2612-KH-2/C2612-1L-2-NHCA	4200	1741	2393	3757	270	270	165	843	525	705	885	φ219	383	299	479	659	φ219
ZUWY5M2LSU/F2612-KH-2/C2612-2L-2-NHCA	4200	1741	2393	3757	270	270	165	843	525	705	885	φ219	383	299	479	659	φ219
ZUWY6M2KSU/F3012-PH-2/C2612-2L-2-NHCA	4397	1826	2431	3757	346	270	165	893	499	705	911	φ219	383	299	479	659	φ219
ZUWY6P2OSU/F3012-KH-2/C2612-3L-2-NHCA	4397	1826	2431	3757	346	270	165	893	499	705	911	φ219	383	299	479	659	φ219

Notes:

1. a. Condenser Outlet b. Condenser Inlet c. Evaporator Inlet d. Evaporator Outlet
2. The tolerance of dimension is within 13mm.
3. The dimension of chiller include 20mm insulation for evaporator.
4. OD means the outside diameter of water connection pipe.
5. Configure solid state starter, suction valve, left or right water head connection may affect the dimension. Please contact factory.

Options

Items	Standard	Options
Vessel Code	GB	ASME
Water Connection	Victaulic Groove	ANSI Flange
Starter Type	Star-delta	Solid State
Water Box	Compact Water Cover(1.0MPa)	Marine Water Box
Insulation①	20mm Insulation on Evaporator and Cold Surfaces	40mm Insulation on Evaporator
Flow Switch②	Pressure Differential	Paddle type/Thermal
Anti-vibration	Rubber Cushion	Spring Isolator
Warranty Extended	None	1-4 Year
Test③	Factory Test	1-4 Point Witness Test

Note：

① Insulation:

a. Ambient temperature lower than 30℃：
Humidity lower than 70%, use single layer insulation (20mm); humidity higher than 70%(include), use double layer insulation (40mm).

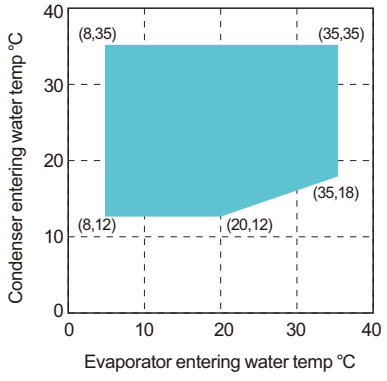
b. Ambient temperature higher than 30℃(include)：
Humidity lower than 65%, use single layer insulation (20mm); humidity higher than 65%(include), use double layer insulation (40mm).

c. Double layer of insulation (40mm) must be used when chiller leaving water temperature lower than 5℃（include）.

② Flow Switch: If the water pressure drop is less than 20KPa, PD switch should not be chosen. Please refer to paddle type or thermal flow switch.

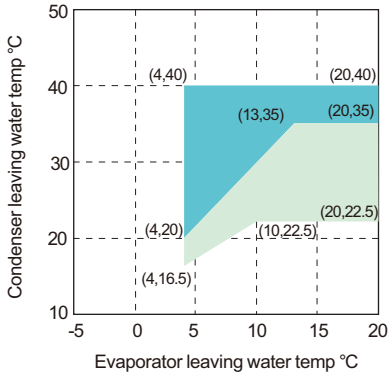
③ Factory Testing：
To ensure provide safe and reliable products to costumers, all Daikin applied screw chillers are factory tested before shipment. Operating and safety controls are checked for correct settings and operation. This testing helps reduce start-up issues and maintain critical construction schedules.

Starting Range



Startup range of standard chillers

Operating Range



Standard chiller operation range at full-load

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Standard chiller operation range at miniumm-load

Note:

1. Starting range is available for chillers to startup only, not for a constant operating.
2. Operating range may vary depending on specific model. It is subject to the latest selection software.
3. If condenser leaving water temp fails to reach 16.5℃ in 10 minutes after startup (17.5℃for ZUW 3A~3D), a two-way valve must be provided to adjust condenser leaving water temp.

Standard Application

The standard running condition:

Supply Voltage	±10%	
Phase Unbalance Rate	±5%	
Frequency	±2Hz	
Operating Temperature	3～40℃	
Relative Humidity	⩽90%	
Atmospheric Corrosive Gas Contents	Sulfur dioxide	⩽ 10 mg/m^3
	Hydrogen fluoride	⩽ 5 mg/m^3
	Hydrogen sulfide	⩽ 5 mg/m^3
	Nitrogen oxide	⩽ 5 mg/m^3
	Nitrogen	⩽ 1 mg/m^3
	Hydrogen chloride	⩽ 5 mg/m^3
Installation	Indoor installation,no rain or direct sunlight(for installations of the outdoor, seaside,chemical plant,or place of high concentration of corrosive gas,please contact the local Daikin branch office and dealers)	

Water Quality Management

During the unit running,the water quality of the cooling and chilled water will directly affect the machine's performance and lifetine,so it is necssary to survey the water quality beforehand,and conduct water quality control as the unit runs.
The following table contains some parameters of the water quality of open system:

Item		Unit	Reference Value	Item	
				Corrosion	Scaling
Base Items	PH (25℃)	-	6.5~8.0	O	O
	Specific (25℃)	μs/cm	< 800	O	O
	Chloridion CL^-	$Mg(CL^-)/L$	< 200	O	
	Sulfateion SO_4^{2-}	$mgSO_4^{2-}/L$	< 200	O	
	Acid Consumption (pH=4.8)	$mg(CaCO_3)/L$	< 100		O
	Full Hardness	$mg(CaCO_3)/L$	< 200		O
Reference Items	Iron Fe	mg(Fe)/L	< 1.0	O	O
	Sulphion S^{2-}	$mg(S^{2-})/L$	Not Detected	O	
	Ammoniumion NH^+	$mg(NH^+)/L$	< 1.0	O	
	Silicon Oxide SiO_2	$mg(SiO_2)/L$	< 50		O

Notes:

1. For water quality index, refer to Appendix D Cooling Water Quality of Water Chiller (Heat Pump) with Vapor Compression Cycle of GB/T18430.1
2. The “O” in the table indicates the relevant factors with corrosion or scaling.
3. If the water quality does not reach the requirements in the above table, refer to Code for Design of Industrial Recirculating Cooling Water Treatment GB50050.

Performance data shown in this manual is for reference purpose only and is correct at the time of print. Refer to the latest version of chiller selection software for performance data at the time of manufacturing.

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P.C. 430056

Subject to change without notice

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