Project Name and Address	**Authority Having Jurisdiction**
Name: Project Name	Enforcement Agency: Agency
Address: Project Address	Permit Number: Permit Number
City, Zip: City, Zip Code	Permit Application Date: Date

Building: Enter Value	Floor: Enter Value	Room: Enter Value	Control/tag: Value

☐ Construction inspection and functional testing comply ☐ Does not comply	Date Submitted to AHJ: Date

Intent:	This Certificate of Acceptance is intended to verify Energy Code compliance for nonresidential and hotel/motel (see NRCA-MCH-23-A for multi-family) buildings with newly installed economizers, dedicated outdoor air systems (DOAS), Heat Recovery Ventilation (HRV) systems, and energy recovery ventilation (ERV) systems. Economizers must be certified to the California Energy Commission in compliance with JA6.3. Submit one Certificate of Acceptance for each economizer, DOAS, HRV, or ERV system that must demonstrate compliance with the Energy Code. For direct Energy Code reference see JA6.3, NA7.5.4, §140.4(e), §140.4(q), ~~-~~§120.5(a)4, §160.3(d)1D, and §170.2(c)4C.

Reference Table R-1 (Table 140.4-G)

Climate Zones	**Fixed Dry Bulb**	**Differential Dry Bulb**	**Fixed Enthalpy with Fixed Dry bulb**
1, 3, 5, 11-16	T_{OA} > 75 °F	T_{OA} > T_{RA} °F	N/A
2, 4, and 10	T_{OA} > 73 °F	T_{OA} > T_{RA} – 2 °F	N/A
6, 8, 9	T_{OA} > 71 °F	T_{OA} > T_{RA} – 4 °F	N/A
7	T_{OA} > 69 °F	T_{OA} > T_{RA} – 6 °F	N/A
All Climate Zones	N/A	N/A	H_{OA} > 28 Btu/~~LBS.~~lb or T_{OA} > 75 °F

Where: T_{OA} = Outside Air Temperature
T_{RA} = Return Air Temperature
H_{OA} = Outdoor Air Enthalpy

Table A: Construction Inspection

Prior to functional testing, verify and document all of the following:

Step	**Entry**	**Item**	**Code Reference**
1.1	☐ Pass ☐ Fail	All documentation shipped with the economizer, DOAS, HRV, or ERV system including manuals and sensor performance curves are available for review.	NA7.5.4.1(d)
1.2	☐ Pass ☐ Fail	Verify that the sensor output value measured during sensor calibration is plotted on the performance curve.	NA7.5.4.1(e)

Step	Entry	Item	Code Reference
2.1 and	P, F, or N/A	Verify that the bypass high limit shutoff control for the economizer, DOAS, HRV, or ERV system complies with **Reference Table R-1**. (Pass, Fail, or N/A)	NA7.5.4.1(a), §140.4(e)2, Table 140.4-G, §170.2(c)4Cii, Table 170.2-G
2.2	P, F, or N/A	Verify that at altitudes substantially different than sea level, the Fixed Enthalpy limit value is set to the enthalpy value at 75°F and 50% relative humidity. (Pass, Fail, or N/A)	NA7.5.4.1(a), §140.4(e)2, Table 140.4-G, §170.2(c)4Cii, Table 170.2-G
3	P, F, or N/A	**Alternative to Step 2** If using Dew Point, Fixed Enthalpy, Electronic Enthalpy, or Differential Enthalpy Controls **Energy Commission Executive Director approval for use in California must be attached**. (Pass, Fail, or N/A)	NA7.5.4.1(a), §140.4(e)2, Table 140.4-G, §170.2(c)4Cii, Table 170.2-G
4	P, F, or N/A	Verify that devices with selectable (rather than adjustable) setpoints are capable of being set to within 2°F and 2 Btu/~~LBS~~ lb of the setpoint listed. (Pass, Fail, or N/A)	NA7.5.4.1(a), §140.4(e)2, Table 140.4-G, §170.2(c)4Cii, Table 170.2-G
5	P, F, or N/A	Verify that if the high-limit control is fixed dry-bulb or fixed enthalpy with fixed dry-bulb, it has an adjustable setpoint. (Pass, Fail, or N/A)	NA7.5.4.1(b)
6	☐ Pass ☐ Fail	Verify that the economizer, DOAS, HRV, or ERV system bypass lockout control sensor is located to prevent false readings.	NA7.5.4.1(c)
7.1, or	P, F, or N/A	Verify if using damper for bypass control that the economizer, DOAS, HRV, or ERV system bypass damper moves freely without binding. (Pass, Fail, or N/A)	NA7.5.4.1(f)
7.2	P, F, or N/A	Indicate if bypass control is achieved through heat/energy recovery wheel rotation speed modulation as means other than air dampers. (Pass, Fail, or N/A)	NA7.5.4.1(f)1
8	☐ Pass ☐ Fail	Verify that the economizer, DOAS, HRV, or ERV system bypass has control systems, including two-stage or electronic thermostats, that cycle compressors off when the bypass can provide partial cooling.	NA7.5.4.1(g)
9.0	P, F, or N/A	For economizers only - DOAS, HRV, or ERV system indicate N/A and proceed to Step 11.1. Using the documentation provided in Step 1.1, verify that the air economizer and all air dampers have **ALL** of the following features (9.1-9.8). (Pass, Fail, or N/A-for non-economizers)	NA7.5.4.1(h), §140.4(e)~~2D~~2E, §170.2(c)4Ciii

Step	Entry	Item	Code Reference
9.1	☐ Pass ☐ Fail	Warranty. 5-year Manufacturer warranty of economizer assembly.	NA7.5.4.1(h), §140.4(e)~~2Di~~2Ei, §170.2(c)4Ciiia
9.2	☐ Pass ☐ Fail	Damper reliability testing. Certification from suppliers of economizers that the economizer assembly, including but not limited to outdoor air damper, return air damper, drive linkage, and actuator, have been tested and are able to open and close against the rated airflow and pressure of the system for 60,000 damper opening and closing cycles.	NA7.5.4.1(h), §140.4(e)2E~~d~~ii, §170.2(c)4Ciiib
9.3	☐ Pass ☐ Fail	Damper leakage. Economizer outdoor air and return air dampers have a maximum leakage rate of 10 cfm/sf at 250 Pascals (1.0 in. of water) when tested in accordance with AMCA Standard 500-D.	NA7.5.4.1(h), §140.4(e)2E~~D~~iii, §170.2(c)4Ciiic
9.4	P, F, or N/A	Adjustable setpoint. If the high-limit control is fixed dry-bulb or fixed enthalpy with fixed dry-bulb then verify that the control has an adjustable setpoint. (Pass, Fail, or N/A)	NA7.5.4.1(h), §140.4(e)2E~~d~~iv, §170.2(c)4Ciiid
9.5	☐ Pass ☐ Fail	Sensor accuracy. Outdoor air, return air, mixed air, and supply air sensors are calibrated within the following accuracies. 1. Dry bulb and wet bulb temperatures accurate to ±2°F over the range of 40°F to 80°F. 2. Enthalpy accurate to ±3 Btu/~~LBS.~~lb over the range of 20 Btu/~~LBS.~~lb to 36 Btu/~~LBS.~~lb 3. Relative humidity (RH) accurate to ±5 percent over the range of 20 percent to 80 percent RH.	NA7.5.4.1(h), §140.4(e)2E~~D~~v, §170.2(c)4Ciiie
9.6	☐ Pass ☐ Fail	Sensor calibration data. Data used for control of the economizer is plotted on a sensor performance curve.	NA7.5.4.1(h), §140.4(e)2E~~d~~vi, §170.2(c)4Ciiif
9.7	☐ Pass ☐ Fail	Sensor high limit control. Sensors used for the high limit control are located to prevent false readings, including but not limited to being properly shielded from direct sunlight.	NA7.5.4.1(h), §140.4(e)2E~~D~~vii, §170.2(c)4Ciiig
9.8	☐ Pass ☐ Fail	Relief air system. Relief air systems is capable of providing 100 percent outside air without over-pressurizing the building.	NA7.5.4.1(h), §140.4(e)2E~~D~~viii, §170.2(c)4Ciiih

Step	Entry	Item	Code Reference
10	P, F, or N/A	For economizers only - DOAS, HRV, or ERV system indicate N/A and proceed to Step 11.1. Verify that the economizer inlet damper is designed to modulate up to 100 percent open, and return air damper to 100 percent closed, without over-pressurizing the building. (Pass, Fail, or N/A)	NA7.5.4.1(i)
11.1, or	P, F, or N/A	For systems with DDC controls verify that lockout sensor(s) are either factory calibrated or field calibrated. (Pass, Fail, or N/A)	NA7.5.4.1(j)
11.2	P, F, or N/A	For systems with non-DDC controls, verify that manufacturer's startup and testing procedures have been applied. (Pass, Fail, or N/A)	NA7.5.4.1(k)
12	P, F, or N/A	For economizers only - DOAS, HRV, or ERV systems enter N/A. Verify that the economizer has been certified to the Energy Commission by consulting the CEC Air Economizer Certified List (https://www.energy.ca.gov/media/3259). (Pass, Fail, or N/A)	NA7.5.4.1(l), §140.4(e)2E~~D~~iii §170.2(c)4Ciiic
13	☐ Pass ☐ Fail	Check "Pass" if construction inspection **complies** with all requirements. Check "Fail" if construction inspection **does not comply** with all requirements.	NA

Table B: Functional Testing for Air Economizer Controls

Step	Entry	Functional Test	Code Reference
0	☐ Exception ☐ N/A	For economizers ~~only ,~~ DOAS, HRV, or ERV systems. ~~enter N/A.~~ If the economizer is installed by the **HVAC** system manufacturer technician (not the economizer technician) and certified to the Energy Commission, then the economizer is ~~excepted~~ not required to comply with ~~from~~ this functional test (NA7.5.4.2). This functional test (NA7.5.4.2) is not ~~necessary~~ required if the DOAS, HRV, or ERV unit does not include bypass or control to disable energy recovery as specified by Section 140.4(q)2, or if it does not meet the exhaust air heat recovery ratio as specified by Section 140.4(q)1. ~~If the DOAS, HRV, or ERV unit does not meet the exhaust air heat recovery ratio as specified in Section 140.4(q)1 or does not include bypass or control to disable energy recovery as specified in Section 140.4(q)2, then it does not require to comply with this functional test (NA7.5.4.2).~~ Enter Step 0 as "Exception, by-pass all functional testing and mark Step 7 as passing; otherwise enter Step 0 as N/A.	§120.5(a)4 Exceptions, §140.4(q)1, §140.4(q)2, §160.3(d)1D Exception
1	P, F, or N/A	Disable demand control ventilation systems (if applicable). (Pass, Fail, or N/A)	NA7.5.4.2 Step 1
2.0	☐ Pass ☐ Fail	Enable the economizer, DOAS, HRV, or ERV system and simulate a cooling demand large enough to drive the bypass to fully open position. Maintain this status for all of Step 2.	NA7.5.4.2 Step 2
2.1	☐ Pass ☐ Fail	Verify either of the following: 1. Using dampers – bypass is 100 percent open, and return is 100 percent closed; or 2. Using HRV/ERV wheel – wheel is fully stopped.	NA7.5.4.2 Step 2(a), Step 2(a)1
2.2	☐ Pass ☐ Fail	Verify that all applicable fans and dampers/wheels operate as intended to maintain building pressure.	NA7.5.4.2 Step 2(b)
2.3	P, F, or N/A	Verify that the economizer heating is disabled (if applicable). (Pass, Fail, or N/A)	NA7.5.4.2 Step 2(c)
3.0	P, F, or N/A	For economizers only – DOAS, HRV, or ERV systems enter as N/A and proceed to Step 4. Disable the economizer and simulate a cooling demand. Maintain this status for all of Step 3. (Pass, Fail, or N/A)	NA7.5.4.2 Step 3, Step 3(g)
3.1	☐ Pass ☐ Fail	Verify that the economizer damper closes to its minimum position.	NA7.5.4.2 Step 3(d)
3.2	☐ Pass ☐ Fail	Verify that all applicable fans and dampers operate as intended to maintain building pressure.	NA7.5.4.2 Step 3(e)

Step	Entry	Functional Test	Code Reference
3.3	P, F, or N/A	Verify that the unit heating is disabled (if unit has heating capability). (Pass, Fail, or N/A)	NA7.5.4.2 Step 3(f)
4.0	☐ Pass ☐ Fail	If unit has heating capability, simulate a heating demand and set economizer, DOAS, HRV, or ERV systems so that it is capable of operating (i.e., actual outdoor air conditions are below lockout setpoint). Maintain this status for all of Step 4.	NA7.5.4.2 Step 4
4.1	P, F, or N/A	For economizers only – DOAS, HRV, or ERV systems enter Steps 4.1 and 4.2 as N/A and proceed to Step 4.3. Verify that the economizer damper is at minimum position. (Pass, Fail, or N/A)	NA7.5.4.2 Step 4(h)
4.2	P, F, or N/A	For economizers only – DOAS, HRV, or ERV systems enter Steps 4.1 and 4.2 as N/A and proceed to Step 4.3. Verify that the return air damper opens. (Pass, Fail, or N/A)	NA7.5.4.2 Step 4(i)
4.3	P, F, or N/A	For DOAS, HRV, or ERV systems only - economizers enter as N/A and proceed to Step 5. Verify that the DOAS, HRV, or ERV systems bypass control modulates bypass damper/wheel speed to control temperature setpoint. (Pass, Fail, or N/A)	NA7.5.4.2 Step 4(j)
5	P, F, or N/A	For economizers only – DOAS, HRV, or ERV systems enter as N/A and proceed to Step 6. Turn off the unit and verify that the economizer damper closes completely. (Pass, Fail, or N/A)	NA7.5.4.2 Step 5, Step 5(k)
6	☐ Pass ☐ Fail	Restore demand control ventilation systems (if applicable) and remove all system overrides initiated.	NA7.5.4.2 Step 6
7	☐ Pass ☐ Fail	Check "Pass" if functional test **complies** with all requirements. Check "Fail" if functional test **does not comply** with all requirements.	N/A

Declaration Statement	Signatory
Document Author I assert that this Certificate of Acceptance documentation is accurate and complete.	Name Company Name Author Signature Date Signed
Acceptance Test Technician I certify the following under penalty of perjury, under the laws of the State of California: The information provided on this Certificate of Acceptance is true and correct. I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician). The construction or installation identified on this Certificate of Acceptance complies with the applicable acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and signed by the responsible builder/installer and has been posted or made available with the building permit(s) issued for the building.	Name Company Name ATT No.: ATT Cert. No. Title Phone Signature Date Signed
Responsible Person I assert the following under penalty of perjury, under the laws of the State of California: I am the Field Technician, or the Field Technician is acting on my behalf as my employee or my agent and I have reviewed the information provided on this Certificate of Acceptance. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Acceptance and attest to the declarations in this statement ~~(responsible acceptance person)~~. The information provided on this Certificate of Acceptance substantiates that the construction or installation identified on this Certificate of Acceptance complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and is posted or made available with the building permit(s) issued for the building. I understand that a completed, signed copy of this Certificate of Acceptance shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to ensure this requirement is accomplished. I understand that a signed copy of this Certificate of Acceptance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to ensure this requirement is accomplished.	Name Company Name Lic. No.: License No. Title Phone Signature Date Signed