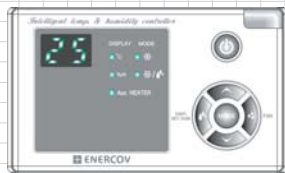


New technologies of precision temperature & humidity controls



With microprocessor
temp.& humidity controller

Big BENEFITS ;

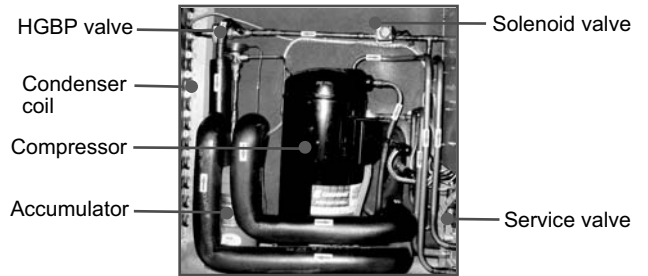
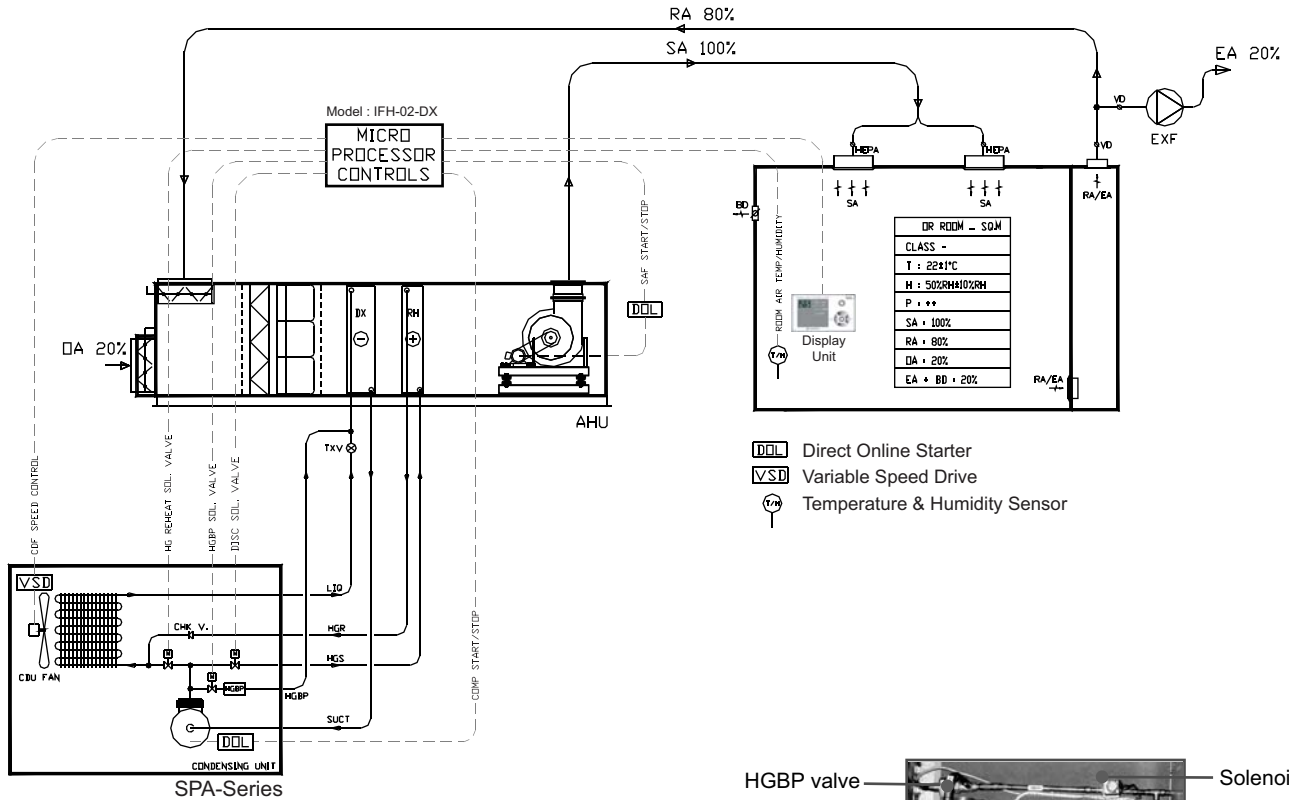
Energy saving > **30%**
Less equipments require
Temp. & Humidity very accurate
Added safety
No need for heating elements



SPA-Series

Climate Controls Condensing Unit

Air cooled condenser for cooling, heating & dehumidifying process.



High quality devices

General Specification

| Outdoor Unit Model | | Unit | SPA012 | SPA018 | SPA024 | SPA032 | SPA036 |
|----------------------------------|----------------------|---------|---|-----------------|-------------|-------------|--------------|
| Nominal cooling capacity | | kW | 3.66 | 5.57 | 7.33 | 9.67 | 11.13 |
| | | Btu/hr | 12,500 | 19,000 | 25,000 | 33,000 | 38,000 |
| Power source | | V/Ph/Hz | 220/1/50 | | | | 380/3/50 |
| Compressor running amps | | Amp | 5.1 | 9.6 | 14.3 | 17.1 | 7.2 |
| Compressor RLA | | Amps | 11.4 | 14.8 | 17.3 | 23.1 | 10.8 |
| Compressor type | | - | Rotary | Hermetic Scroll | | | |
| Capacity control device | | - | Hot gas bypass valve (HGBP) | | | | |
| HGBP solenoid valve control type | | - | On/Off W/Pulse Width Modulating (PWM function) | | | | |
| Capacity range | | - | 50% - 100% | | | | |
| Suction accumulator | | - | Yes (Option) | | | | |
| Oil separator | | - | Yes (Option) | | | | |
| Hot gas reheat valve | | - | On/Off solenoid valve 2 nos. | | | | |
| Controls system | | - | | | | | |
| - Standard | <i>Model</i> | - | <i>Enercov's "IFH-02-DX"</i> | | | | |
| | <i>Type</i> | - | <i>Microprocessor based with FUZZY algorithm</i> | | | | |
| | <i>Sensor</i> | - | <i>Space temp. & humidity sensor</i> | | | | |
| | <i>Display</i> | - | <i>2 digits 7 segments LED with function key & on/off button (wall mount)</i> | | | | |
| - Option controls system | | - | <i>Programmable DDC w/LCD display & BAS interfacing</i> | | | | |
| CDU Fan | <i>Type</i> | - | Propeller Fan Direct Drive | | | | |
| | <i>Fan Control</i> | - | Head pressure control W/fan speed control module | | | | |
| | <i>Motor current</i> | Amp | 0.29 | 0.72 | 0.72 | 0.72 | 1.44 |
| | <i>Volt/Ph/Hz</i> | - | 220V/1PH/50Hz | | | | |
| | <i>No. of fan</i> | - | 1 | | | | 2 |
| Dimension | HxWxD | mm | 750x540x300 | 915x650x400 | 915x650x400 | 915x750x400 | 1170x940x370 |
| Approx. net weight | | kg | 52 | 67 | 75 | 93 | 112 |

Note : - CU pipe connections are recommended for <50 m distance between CDU and AHU (see last page).
 - Cooling capacity based on saturated condensing temperature (SCT) 54.4°C and saturated suction temperature (SST) 7.2°C.

SPA Series

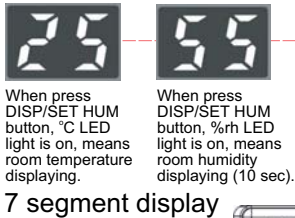
ENERCOV's "IFH-02-DX" intelligent T&H controller

ENERCOV's IFH series, new innovation of humidity controls system. It is applied to DX air cooled condensing unit to control room temperature and humidity at desirably range without electric heater elements. IFH series provide fully equipments such as micro-processor controller (p/n : ITH-02-DX), display unit (p/n : DT-05HE), room temperature & humidity sensor (p/n : THS-01). ENERCOV's temperature and humidity control model "IFH-02-DX" also provide voltage free contact to start/stop supply air fan of air handling unit including remote start/stop control routine as well.

FUZZY algorithm

Intelligent temperature & humidity controller with completed FUZZY algorithm provides very precise of room temperature & humidity. FUZZY algorithm adjusts compressor capacity control (HGBP) and hot gas reheat valve to maintain sensible & latent capacity follows room load condition by automatically. That mean we can control room temperature & humidity without additional high power consumption device such as electric heater. Display unit can display room temperature & relative humidity as per configure by user. The user also can adjust room condition very easily.

Display unit functions

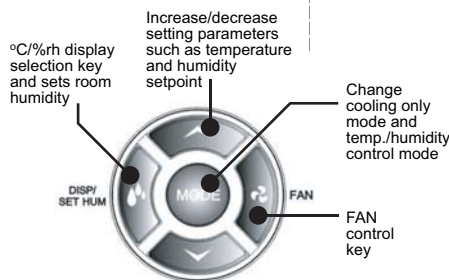
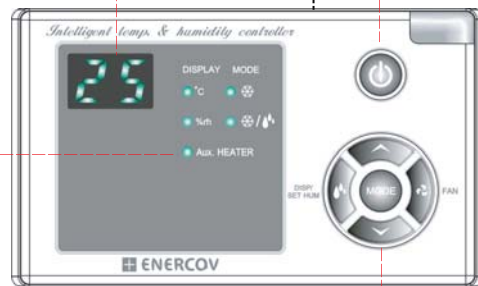


DISPLAY

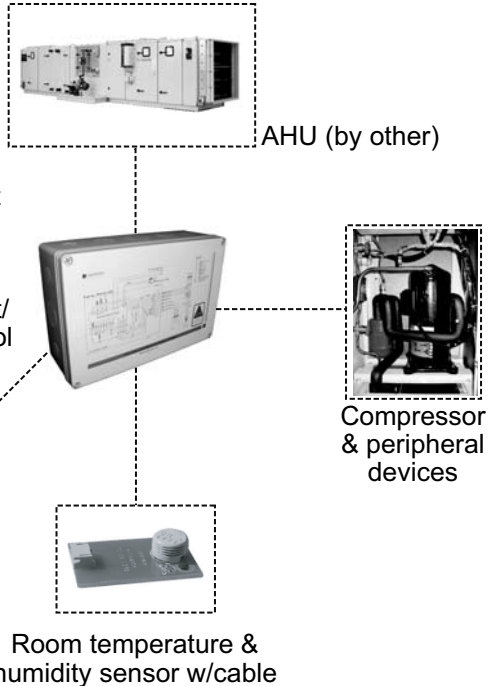
- °C
Room temperature displaying lamp
- %rh
Room humidity displaying lamp
- Aux HEATER
Auxilliary heater operating lamp

MODE

- Mode cooling only
- Mode temperature & humidity control



Function keys



Configuration & Functions

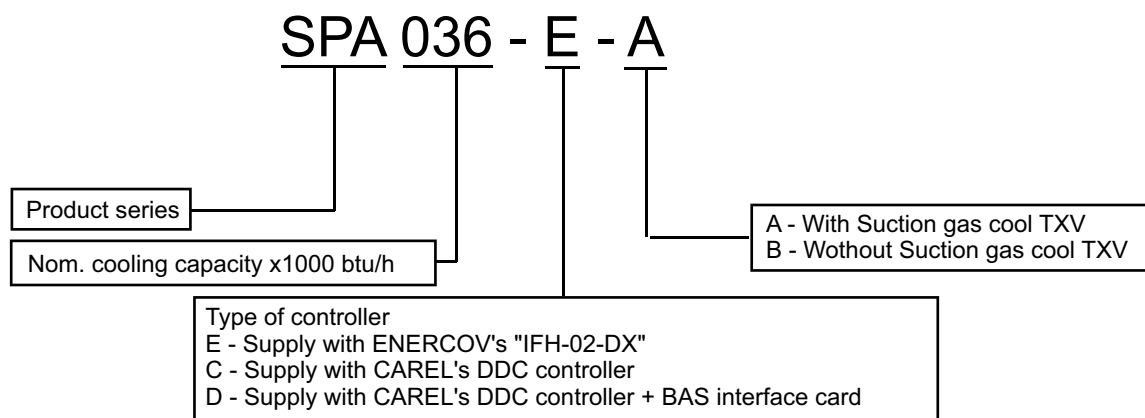
1. Room temp. & humidity are controlled by FUZZY adaptive algorithm.
2. Cooling mode and temperature/humidity control mode selectable
3. Aux HEATER LED lights up when heating function is enabled. This function is applied to control hot gas reheat coil solenoid valve.
4. Room temperature and humidity display selectable. These 2 parameters can configurable to swap display by automatically.
5. Voltage free contact provides for supply air fan start/stop function.
6. Room sensors faulty alarm codes.
7. Room temperature & humidity sensors calibration is also available.
8. Proportional, integral gain and calculation time are configurable.
9. Remote contact On/Off configurable.
10. Un-occupied T&H setpoint configurable from free contact input.

SPA Series

Refrigerant pipe sizing installation (Type-L)

| Heat Recovery Unit Model | | Unit | SPA012 | SPA018 | SPA024 | SPA032 | SPA036 |
|--------------------------|--------------|--------|------------------------------------|--------|--------|--------|--------|
| Nominal cooling capacity | | kW | 3.66 | 5.57 | 7.33 | 9.67 | 11.13 |
| | | Btu/hr | 12,500 | 19,000 | 25,000 | 33,000 | 38,000 |
| Equivalent length | Refrig Line | - | Pipe sizing upon equivalent length | | | | |
| <10 m. | LIQ | Inches | 3/8 | 3/8 | 3/8 | 3/8 | 3/8 |
| | HGBP | Inches | 3/8 | 3/8 | 3/8 | 1/2 | 1/2 |
| | SUCT | Inches | 1/2 | 5/8 | 5/8 | 3/4 | 3/4 |
| | HGS/HGR/DISC | Inches | 1/2 | 1/2 | 1/2 | 5/8 | 5/8 |
| 10-20 m. | LIQ | Inches | 3/8 | 3/8 | 3/8 | 1/2 | 1/2 |
| | HGBP | Inches | 3/8 | 1/2 | 1/2 | 1/2 | 5/8 |
| | SUCT | Inches | 5/8 | 3/4 | 3/4 | 7/8 | 7/8 |
| | HGS/HGR/DISC | Inches | 1/2 | 5/8 | 5/8 | 5/8 | 3/4 |
| 20-30 m. | LIQ | Inches | 3/8 | 3/8 | 1/2 | 1/2 | 1/2 |
| | HGBP | Inches | 3/8 | 1/2 | 1/2 | 5/8 | 5/8 |
| | SUCT | Inches | 5/8 | 3/4 | 7/8 | 7/8 | 1-1/8 |
| | HGS/HGR/DISC | Inches | 1/2 | 5/8 | 5/8 | 3/4 | 3/4 |
| 30-40 m. | LIQ | Inches | 3/8 | 3/8 | 1/2 | 1/2 | 1/2 |
| | HGBP | Inches | 1/2 | 1/2 | 5/8 | 5/8 | 5/8 |
| | SUCT | Inches | 3/4 | 3/4 | 7/8 | 1-1/8 | 1-1/8 |
| | HGS/HGR/DISC | Inches | 5/8 | 5/8 | 3/4 | 3/4 | 3/4 |
| 40-50 m. | LIQ | Inches | 3/8 | 1/2 | 1/2 | 1/2 | 1/2 |
| | HGBP | Inches | 1/2 | 1/2 | 5/8 | 3/4 | 3/4 |
| | SUCT | Inches | 3/4 | 7/8 | 7/8 | 1-1/8 | 1-1/8 |
| | HGS/HGR/DISC | Inches | 5/8 | 5/8 | 3/4 | 3/4 | 7/8 |

Product Nomenclature



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