

## "All-in-One" Compact Dryer

SCD-160U/120H



Refer carefully to this manual before operation.

## SCD Series

SCD-xxxU(x2)/xxxH - xxx

- Option \*
- Dehumidifying Air Quantity (m<sup>3</sup>/hr)
- H: Honeycomb Rotor
- Hopper quantity
- Hopper Capacity (L)
- U: European Type
- Shini Compact Dryer



SCD-450U/300H-LC-D

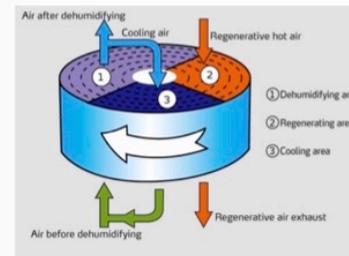
SCD-120U/80H-D-OP-M2



SCD-80Ux2/100H

### Features

- Combine the function of dehumidifying, drying and two-stage conveying into a single unit.
- SCD dryers Loaders are equipped with honeycomb rotor to obtain stable low dew-point drying air. It has two models: semi-open and hermetic.
- Feeding system is equipped with shut-off valve to ensure no surplus raw material in hopper tubes.
- Microprocessor is standard equipment.
- Heat preserved drying hopper barrel adopts down blowpipe design and collocates with cyclone air exhaust to avoid heat lost and improve drying efficiency.
- Equipped with two drying hoppers, the drying temperature of single hopper can be individually controlled. It mainly applied to double-shot molding machine, which can process dehumidifying and drying to two different drying materials.



Honeycomb Rotor Working Principle



Control Panel with Dew-point Monitor

## CFC替代品 Substitutes for CFC

70年代初，环境科学家发现氟氯烷烃(CFC)对大气臭氧层有破坏作用，因而对人类的生存环境构成严重威胁。因此CFC替代品的开发和使用成为大势所趋。

Early the 1970's, the environmental scientists had found that chlorofluoroalkane (CFC) has a destructive effect to the ozone layer in the atmosphere, and then will seriously threaten the existence environment of the humankind. Thereby it is an unconvertible tide to develop and use the substitutes for CFCs.



我公司目前可提供的CFC替代品种和技术规格如下表：

At present, our company is able to offer the following substitutes for CFCs, with the specification of CFC substitutes:

品名 Name	化学式 Formula	沸点 B.P.(° C)	蒸气压力(25° C)巴 Vapor Pressure (25° C)bar	被替代物 Substituted Products
HFC-134a	CF3CH2F	-26.1	6.65	R12
R407C	R32/125/134a	-43.9	11.74	R22
R410A	R32/125	-52.7	16.64	R22
R404A	R125/143a/134a	-46.1	12.6	R22
R406A	R22/600a/142b	-32.4	6.8	R12
R125	CHF2CF3	-48.45	13.71	R22/502
R124	CHClFCF3	-10.95	3.86	R22/502
R123	CHCl2CF3	27.85	0.96	R11/R113
R32	CH2F2	-53.15	17.02	R22
R152a	CH3CHF2	-24.7	5.99	R12
R142b	CH3CClF2	-9.2	3.15	Refrigeration at hi-temp

### 包装规格Packing

10.9kg/24lb, 11.3kg/25lb, 13.6kg/30lb, 22.7kg/50lb, 40kg, 400kg, 800kg, 1000kg.

## 二氟一氯甲烷 ( HCFC-22 ) Chlorodifluoromethane(HCFC-22)

### 性状用途 Property and Application

在常温下为无色气体，在自身压力下为无色透明液体，无毒不燃，具有良好的热稳定性和化学稳定性，不腐蚀金属。它是一种低温制冷剂，可得到-80℃的致冷温度，是生产聚四氟乙烯的重要原料和生产灭火剂1211的中间体。它还可以作为挤出型乙烯和聚。

Chlorodifluoromethane(HCFC-22), a colorless gas at room temperature, is a colorless, non-toxic, nonflammable and transparent liquid under the pressure created by itself. It has excellent thermal and chemical stability and no corrosivity to metals. Its main applications include refrigerant (-80°C) It is also a blowing agent for extruded polystyrene and polyurethane foams.



### 产品物理性质Physical Properties

分子式:	CHClF <sub>2</sub>	Formula:	CHClF <sub>2</sub>
分子量:	86.50	Molecular weight:	86.50
沸点, °C:	-40.80	B. P., °C:	-40.80
临界温度, °C:	96.00	Critical temperature, °C:	96.00
临界压力, MPa:	4.99	Critical pressure, MPa:	4.99
临界密度, g/cm <sup>3</sup> :	0.5238	Critical density, g/cm <sup>3</sup> :	0.5238
液态密度, g/cm <sup>3</sup> @ 21°C:	1.2063	Liquid density, g/cm <sup>3</sup> @ 21°C:	1.2063
蒸气密度, g/cm <sup>3</sup> @ BP:	0.0047	Vapor density, g/cm <sup>3</sup> @ BP:	0.0047
臭氧破坏潜能值(CFC-11=1.0)	0.05	ODP (CFC-11=1.0)	0.05
全球变暖系数(CO <sub>2</sub> =1.0)	1780	GWP (CO <sub>2</sub> =1.0)	1780

### 质量指标Quality Standard

等级:	TFE原料级	冷级	Grade:	TFE raw material	Refrigerant
外观:	无色 不浑浊 无异臭	无色 不浑浊 无异臭	Appearance:	colorless no turbid odorless	colorless no turbid odorless
纯度, ≥%:	99.9	99.8	Purity, ≥%:	99.9	99.8
水份, ≤%:	0.001	0.001	Water, ≤%:	0.001	0.001
酸度, ≤%:	0.0001	0.0001	Acidity, ≤%:	0.0001	0.0001
蒸发残留物, ≤%:	0.01	0.01	Residue on evaporation, ≤%:	0.01	0.01

### 包装规格Packing

13.6kg/30lb, 22.7kg/50lb, 400kg, 800kg, 950kg, ISO tank

## 四氟乙烷 (HFC-134A) Tetrafluoroethane (HFC-134A)

### 性状用途 Property and Application

R134a是目前国际公认的替代CFC-12的主要制冷工质之一，常用于车用空调，商业和工业用制冷系统，以及作为发泡剂用于硬塑料保温材料生产，也可以用来配置其他混合致冷剂，如R404A和R407C等。  
R134a is a refrigerant to replace CFC -12 in mobile air conditioning and in residential, commercial and industrial refrigeration systems. As well as the blowing agent used in hard plastic insulation materials production, and an important component of blends, such as R404A, R407C, etc.



### 产品物理性质Physical Properties

分子式:	CH <sub>2</sub> FCF <sub>3</sub>	Formula:	CH <sub>2</sub> FCF <sub>3</sub>
分子量:	102.03	Molecular weight:	102.03
沸点, °C:	-26.05	B.P., ° C:	-26.05
临界温度, °C:	101.00	Critical temperature, ° C:	101.00
临界压力, MPa:	4.0563	Critical pressure, MPa:	4.0563
临界密度, g/cm <sup>3</sup> :	0.5126	Critical density, g/cm <sup>3</sup> :	0.5126
液体密度, g/cm <sup>3</sup> @ 21°C:	1.2207	Liquid density, g/cm <sup>3</sup> @ 21°C:	1.2207
蒸气压力, MPa @ BP:	0.0052	Vapor pressure, MPa @ BP:	0.0052
臭氧破坏潜能值(CFC-11=1.0)	0	ODP(CFC-11=1.0):	0
全球变暖系数(CO <sub>2</sub> =1.0)	1320	GWP(CO <sub>2</sub> =1.0):	1320

### 质量指标Quality Standard

等级	优级品	一等品	Grade:	Excellent	First
外观:	无色	无色	Appearance:	colorless	colorless,
	不浑浊	不浑浊		no turbid	no turbid
气味:	无异臭	无异臭	Odor:	Odorless	Odorless
纯度, ≥%:	99.8	99.5	Purity, ≥%:	99.8	99.5
水份, ≤%:	0.001	0.001	Water, ≤%:	0.001	0.001
酸度, ≤%:	0.0001	0.0001	Acidity, ≤%:	0.0001	0.0001
蒸发残留物, ≤%:	0.01	0.01	Residue on evaporation, ≤%:	0.01	0.01

### 包装规格Packing

13.6kg/30lb, 22.7kg/50lb, 60kg, 400kg, 950kg, ISO tank

## R134A替代品 Refrigerant R134A (Substitute)

### 性状用途 Property and Application

R22和R142B混合工质，用于替代R134A，其压力和制冷量与R134A相匹配。

A blend of R22 and R142B, intend for replace R134A, the pressure and system capacity match R134A.



### 产品物理性质Physical Properties

沸点, °C:	-27	B.P., °C:	-27
临界温度, °C:	115	Critical temperature, °C:	115
临界压力, MPa:	4.7	Critical pressure, MPa:	4.7
饱和蒸气压力, MPa @ 25°C:	0.7	Saturation vapor pressure, MPa @ 25°C:	0.7
相对密度, (水=1):	1.12	Relative density, (water=1):	1.12
相对蒸气密度(空气=1):	2.79	Relative vapor density, (air=1):	2.79

### 质量指标Quality Standard

外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异臭	Odor:	Odorless
纯度, ≥%:	99.5	Purity, ≥%:	99.5
水份, ≤%:	0.001	Water, ≤%:	0.001
酸度, ≤%:	0.0001	Acidity, ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation, ≤%:	0.01

### 包装规格Packing

13.6kg/30lb, 22.7kg/50lb, 100kg, 400kg, 1000kg, ISO tank

## 制冷剂R407C Refrigerant R407C

### 性状用途 Property and Application

R407C是环保型制冷剂，用于替代R22和R502，具有清洁、低毒、不燃、致冷效果好等特点，大量用于空调行业。

R407C is a kind of refrigerant of environmental-protection model, used in replacing R22 and R502. It has a good nature of cleaning, low poison, non-combustion, good-refrigeration and so on and greatly used in air-conditioner.



### 产品物理性质Physical Properties

分子式:	CH <sub>2</sub> F <sub>2</sub> /CHF <sub>2</sub> CF <sub>2</sub> /CF <sub>3</sub> CH <sub>2</sub> F	Formula:	CH <sub>2</sub> F <sub>2</sub> /CHF <sub>2</sub> CF <sub>2</sub> /CF <sub>3</sub> CH <sub>2</sub> F
沸点, °C:	-42	B.P., °C:	-42
蒸汽压(25° C), MPa:	1.174	Vapor pressure (25° C), MPa:	1.174
液体密度(25° C), g/cm <sup>3</sup> :	1.136	Liquid density (25° C), g/cm <sup>3</sup> :	1.136
临界温度, °C:	86.1	Critical temperature, °C:	86.1
临界压力, MPa:	4.634	Critical pressure, MPa:	4.634
气体热容, 1 atm, 25° C, KJ/(kgK):	0.829	Gas heat capacity 1 atm, 25° C, KJ/ (kgK):	0.829
液体热容, 1 atm, 25° C, KJ/(kgK):	1.54	Liquid heat capacity 1 atm, 25° C, KJ/ (kgK):	1.54
气体热传导率, 25° C, W/(mK):	0.0134	Gas heat conductivity 25° C, W/ (mK):	0.0134
液体热传导率, 25° C, W/(mK):	0.0819	Liquid heat conductivity 25° C, W/ (mK):	0.0819
破坏臭氧潜能值:	0	ODP:	0
全球变暖系数值:	1.526	GWP:	1.526

### 质量指标Quality Standard

气味:	轻微的醚味	Odor:	sight ether
颜色:	无色透明	Color:	colorless, transparent
HFC-32, % (w/w):	23 ± 2	HFC-32, % (w/w):	23 ± 2
HFC-125, % (w/w):	25 ± 2	HFC-125, % (w/w):	25 ± 2
HFC-134a, % (w/w):	52 ± 2	HFC-134a, % (w/w):	52 ± 2
水分, ≤ %:	0.001	Water, ≤ %:	0.001
酸度, ≤ %:	0.0001	Acidity, ≤ %:	0.0001
蒸发残留物, ≤ %:	0.01	Residue on evaporation, ≤ %:	0.01
气相中不凝性气体, ≤ %:	1.5	Non-congealing gas in gas-phase, ≤ %:	1.5

### 包装规格Packing

11.3kg/25lb, 500kg, 870kg, ISO tank

## 混合制冷剂R408A(HFC125/hfc143A/HCFC22) Mixed refrigerant R408A(HFC125/hfc143A/HCFC22)

### 性状用途 Property and Application

用于中低温制冷系统，替代R502,用于空调制冷系统。

It's used in the middle and low temperature refrigeration system, can replace R502, and used for air conditioning refrigeration system.



### 产品物理性质Physical Properties

分子式:	CHF <sub>2</sub> CF <sub>2</sub> /CH <sub>2</sub> CF <sub>2</sub> /CHClF <sub>2</sub>	Formula:	CHF <sub>2</sub> CF <sub>2</sub> /CH <sub>2</sub> CF <sub>2</sub> /CHClF <sub>2</sub>
分子量:	87	Molecular weight:	87
沸点, °C:	-45.4	B.P., °C:	-45.4
临界温度, °C:	83.3	Critical temperature, °C:	83.3
临界压力, MPa:	4.42	Critical pressure, MPa:	4.42
液体比热30°C, [KJ/ (Kg°C)]:	0.36	Specific heat of liquid 30°C, [KJ/ (Kg°C)]:	0.36
等压蒸气比热, Cp: 30°C及101.3kPa [KJ/ (Kg°C)]:	0.19	Specific heat of equipressure steam, Cp 30°Cand 101.3kPa [KJ/ (Kg°C)]:	0.19
破坏臭氧潜能值:	0.016	ODP:	0.016
沸点下蒸发潜能, KJ/Kg:	227.1	Vaporization heat under BP, KJ/Kg:	227.1

### 质量指标Quality Standard

HFC-125, % (W/W):	7	HFC-125, % (W/W):	7
HFC-143a, % (W/W):	46	HFC-143a, % (W/W):	46
HCFC-22, % (W/W):	47	HCFC-22, % (W/W):	47
外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异味	Odor:	Odorless
纯度 ≥ %:	99.5	Purity ≥ %:	99.5
水份, ≤ %:	0.001	Water ≤ %:	0.001
酸度, ≤ %:	0.0001	Acidity ≤ %:	0.0001
蒸发残留物, ≤ %:	0.01	Residue on evaporation ≤ %:	0.01

### 包装规格Packing

10.9/24lb, 22.7kg/50lb, 40kg, 350kg/400L, 700kg/800L, 800kg/926L, ISO tank

## 混合制冷剂R409A(HCFC22/HCFC124/HCFC142B) Mixed refrigerant R409A(HCFC22/HCFC124/HCFC142B)

### 性状用途 Property and Application

用于低温制冷系统,非离心式空调系统,可替代R22,R500。  
Used in low and medium temperature refrigeration system ,non-centrifugal air - conditioning system It can replace R22,R500.



### 产品物理性质Physical Properties

分子式:	CHClF <sub>2</sub> /CF <sub>3</sub> CHClF /CH <sub>2</sub> CClF <sub>2</sub>	Formula:	CHClF <sub>2</sub> /CF <sub>3</sub> CHClF /CH <sub>2</sub> CClF <sub>2</sub>
分子量:	97.4	Molecular weight:	97.4
沸点, °C:	-35.4	B.P., °C:	-35.4
临界温度, °C:	106.9	Critical temperature, °C:	106.9
临界压力, MPa:	4.69	Critical pressure, MPa:	4.69
饱和液体密度, 25°C, g/cm <sup>3</sup> :	1.216	Density of saturated liquid, 25°C, g/cm <sup>3</sup> :	1.216
液体比热30°C, [KJ/(Kg°C)]:	0.29	Specific heat of liquid 30, [KJ/(Kg°C)]:	0.29
等压蒸气比热, Cp, 30°C及101.3kPa[KJ/(Kg°C)]:	0.17	Specific heat of equippressure steam, Cp, 30°C and 101.3kPa [KJ/ (Kg°C)]:	0.17
破坏臭氧潜能值:	0.039	ODP:	0.039
沸点下蒸发潜能, KJ/Kg:	220	Vaporization heat under B.P., KJ/Kg:	220

### 质量指标Quality Standard

HCFC-22, %(W/W):	60	HFC-22, %(W/W):	60
HCFC-124, %(W/W):	25	HFC-124, %(W/W):	25
HCFC-142B, %(W/W):	15	HCFC-142B, %(W/W):	15
外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异味	Odor:	Odorless
纯度 ≥%:	99.5	Purity ≥%:	99.5
水份, ≤%:	0.001	Water ≤%:	0.001
酸度, ≤%:	0.0001	Acidity ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation ≤%:	0.01

### 包装规格Packing

13.6/30lb, 22.7kg/50lb, 40kg, 400kg/400L, 800kg/800L, 926kg/926L, ISO tank

## 混合制冷剂R409B Mixed refrigerant R409B

### 性状用途 Property and Application

用于低温制冷系统,非离心式空调系统,可替代R22,R500。  
Used in low and medium temperature refrigeration system ,non-centrifugal air - conditioning system It can replace R22,R500.



### 产品物理性质Physical Properties

分子式:	CHClF <sub>2</sub> /CF <sub>3</sub> CHClF /CH <sub>2</sub> CClF <sub>2</sub>	Formula:	CHClF <sub>2</sub> /CF <sub>3</sub> CHClF /CH <sub>2</sub> CClF <sub>2</sub>
分子量:	96.67	Molecular weight:	96.67
沸点, °C:	-36.5	B.P., °C:	-36.5
临界温度, °C:	104.4	Critical temperature, °C:	104.4
临界压力, MPa:	4.71	Critical pressure, MPa:	4.71
破坏臭氧潜能值:	0.033	ODP:	0.033

### 质量指标Quality Standard

HCFC-22, %(W/W):	65	HCFC-22, %(W/W):	65
HCFC-124, %(W/W):	25	HCFC-124, %(W/W):	25
HCFC-142B, %(W/W):	10	HCFC-142B, %(W/W):	10
外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异味	Odor:	Odorless
纯度 ≥%:	99.5	Purity ≥%:	99.5
水份, ≤%:	0.001	Water ≤%:	0.001
酸度, ≤%:	0.0001	Acidity ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation ≤%:	0.01

### 包装规格Packing

13.6kg/30lb, 22.7kg/50lb, 40kg, 360kg/400L, 720kg/800L, ISO tank

## 制冷剂R410A(HFC32/HFC125) Refrigerant R410A(HFC32/HFC125)

### 性状用途 Property and Application

R410A是环保型制冷剂，用于替代R22和R502，具有清洁、低毒、不燃、制冷效果好等特点，大量用于空调行业。R410A is a kind of refrigerant of environmental-protection model, used in replacing R22 & R502. It has a good nature of cleaning, low poison, non-combustion, good-refrigeration and so on, and greatly used in air-conditioner.



## 混合制冷剂R415B Mixed refrigerant R415B

### 性状用途 Property and Application

可替换R12,也可作为R134a的替代品,用于冰箱,冷柜,汽车空调,制冷剂,食品柜,自动售货机以及其它各种R12和R134a的制冷系统。It can alternative R12, can also used as a substitute of R134a, for refrigerator, freezer, automotive air conditioning, ice machine, food cabinets, vending machine and other kind of R12 and R134a refrigeration system.



### 产品物理性质Physical Properties

分子式:	CH <sub>2</sub> F <sub>2</sub> /CHF <sub>2</sub> CF <sub>3</sub>	Formula:	CH <sub>2</sub> F <sub>2</sub> /CHF <sub>2</sub> CF <sub>3</sub>
分子量:	72.6	Molecular weight:	72.6
沸点, °C:	-51.6	B.P., °C:	-51.6
蒸汽压力(沸点下), MPa:	1.648	Vapor pressure under B.P., MPa:	1.648
液体密度, 25° C, g/cm <sup>3</sup> :	1.063	Liquid density, 25° C, g/cm <sup>3</sup> :	1.063
临界温度, °C:	70.7	Critical temperature, °C:	70.7
临界压力, MPa:	4.7699	Critical pressure, MPa:	4.7699
临界密度, g/cm <sup>3</sup> :	00.0	Critical density, g/cm <sup>3</sup> :	00.0
气体热容, 1 atm, 25° C, KJ(kgK):	0.84	Gas heat capacity, 1 atm, 25° C, KJ(kgK):	0.84
液体热容, 1 atm, 25° C, KJ(kgK):	1.68	Liquid heat capacity, 1atm, 25° C, KJ(kgK):	1.68
水在R 410A中的溶解度, wt%:	0.28	Solubility in water %:	0.28

### 质量指标Quality Standard

HFC-32, %(w/w):	50 ± 2	HFC-32, %(w/w):	50 ± 2
HFC-125, %(w/w):	50 ± 2	HFC-125, %(w/w):	50 ± 2
水分, ≤%:	0.001	Water, ≤%:	0.001
酸度, ≤%:	0.0001	Acidity, ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation, ≤%:	0.01
气相中不凝性气体, ≤%:	1.5	Non-congealing in Gas-phase, ≤%:	1.5

### 包装规格Packing

11.3kg/25lb, 500kg, 870kg, ISO tank

### 产品物理性质Physical Properties

沸点, °C:	-29.4	B.P., °C:	-29.4
饱和液体密度, 25° C, g/cm <sup>3</sup> :	0.935	Density of saturated liquid, 25° C, g/cm <sup>3</sup> :	0.935
破坏臭氧潜能值:	0.01	ODP:	0.01
全球变暖系数:	0.10	GWP:	0.10
沸点下蒸发潜热, KJ/Kg:	72.3	Vaporization heat under B.P., KJ/Kg:	72.3

### 质量指标Quality Standard

外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异臭	Odor:	no smell
纯度, ≥%:	99.5	Purity, ≥%:	99.5
水份, ≤%:	0.001	Water, ≤%:	0.001
酸度, ≤%:	0.0001	Acidity, ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation, ≤%:	0.01

### 包装规格Packing

11.3g/25lb, 22.7kg/50lb, 40kg, 350kg/400L, ISO tank

## 制冷剂 R290 Refrigerant R-290

### 性状用途 Property and Application

R290(丙烷)又称冷煤，是一种新型环保制冷剂，主要用于中央空调、热泵空调、家用空调和其它小型制冷设备，也可以用于金属氧割气。

R290 refrigerant, is a new type of environmental protection refrigerant, mainly used in the central air-conditioning, heat pump air conditioning, household air conditioning and other small refrigeration equipment, it can also be used in metal cutting gas.



### 产品物理性质Physical Properties

分子式:	CH <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>	Formula:	CH <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>
分子量:	44.096	Molecular weight:	44.096
沸点, °C:	-42.2	B.P., °C:	-42.2
临界温度, °C:	96.67	Critical temperature (°C):	96.67
临界压力, MPa:	4.24	Critical pressure, MPa:	4.24
液体密度, 25°C, g/cm <sup>3</sup> :	492	Liquid density, 25°C, g/cm <sup>3</sup> :	492
破坏臭氧潜能值(CFC-11=1):	0	ODP(CFC-11=1):	0

### 质量指标Quality Standard

外观:	无色,不浑浊	Appearance:	Colorless, No turbid
气味:	无异味	Odor:	Odorless
纯度, ≥%:	99.9	Purity (≥%):	99.9
水分, ≤%:	0.001	Moisture (≤%):	0.001
酸度, ≤%:	0.0001	Acidity (≤%):	0.0001
残留, ≤%:	0.01	Residue (≤%):	0.01

### 包装规格Packing

5.5KG, 22.7KG, 926L, ISO tank

## 正丁烷 N-Butane Refrigerant R-600

### 性状用途 Property and Application

正丁烷除直接用作燃料外，还用作溶剂、制冷剂和有机合成原料。

Except N-butane is directly used as fuel, it is also used as a solvent, refrigerant and organic synthesis of raw materials.



### 产品物理性质Physical Properties

分子式:	C <sub>4</sub> H <sub>10</sub>	Formula:	C <sub>4</sub> H <sub>10</sub>
分子量:	58.12	Molecular weight:	58.12
沸点, °C:	-0.5	B.P., °C:	-0.5
临界温度, °C:	151.90	Critical temperature (°C):	151.90
临界压力, MPa:	3.79	Critical pressure, Mpa:	3.79
临界密度(g/cm):	0.228	Critical density(g/cm):	0.228

### 质量指标Quality Standard

外观:	无色, 不浑浊	Appearance:	Colorless, no turbid
气味:	无异味	Odor:	Odorless
纯度, ≥%:	99.9	Purity, ≥%:	99.9
水份, ≤%:	0.001	Moisture, ≤%:	0.001
酸度, ≤%:	0.0001	Acidity, ≤%:	0.0001
蒸发残留物, ≤%:	0.01	Residue on evaporation, ≤%:	0.01

### 包装规格Packing

6.5kg, 13kg, 20kg/40L, 460kg/926L, ISO tank

## 异丁烷 Isobutane 600A Refrigerant R600A

### 性状用途 Property and Application

作制冷剂，替代R12,用于空调制冷剂。  
Used as refrigerant, can alternative R12, it's used for car refrigeration system.



### 产品物理性质 Physical Properties

分子式:	C <sub>4</sub> H <sub>10</sub>	Formula:	C <sub>4</sub> H <sub>10</sub>
分子量:	58.13	Molecular weight:	58.13
沸点, °C:	-11.7	B.P., °C:	-11.7
临界温度, °C:	135	Critical temperature:	135
临界压力, MPa:	3.65	Critical pressure, MPa:	3.65
临界密度, g/cm <sup>3</sup> :	0.221	Critical density, g/cm <sup>3</sup> :	0.221
饱和液体密度 25°C, g/cm <sup>3</sup> :	0.551	Density of saturated liquid 25°C, g/cm <sup>3</sup> :	0.551
液体比热 25°C, [KJ/(Kg°C)]:	2.38	Specific heat of liquid, 25°C, [KJ/(Kg°C)]:	2.38
大气压下蒸发潜能, KJ/Kg:	362.6	Latent heat of evaporation at atm pressure, KJ/Kg:	362.6
破坏臭氧潜能值:	0	ODP:	0
全球变暖系数值:	3	GWP:	3

### 质量指标 Quality Standard

外观:	无色,不浑浊	Appearance:	Colorless, No turbid
气味:	无异臭	Odor:	Odorless
纯度, ≥%:	99.5	Purity (≥%):	99.5
水分, ≤%:	0.001	Moisture (≤%):	0.001
酸度, ≤%:	0.0001	Acidity (≤%):	0.0001
残留, ≤%:	0.01	Residue (≤%):	0.01

### 包装规格 Packing

6.5kg, 13kg, 20kg/40L; 460kg/926L, ISO tank

## 冷媒 Refrigerant

简单地说，气液两相制冷剂在蒸发器蒸发制冷吸热，成为气态制冷剂后，被压缩机压缩，成为高温高压气态制冷剂，经冷凝器冷凝为液态制冷剂，通过膨胀阀后再去蒸发器。一句话，制冷剂将蒸发室热量搬到冷凝器处排放。

Simply speaking, the refrigerant with gas-liquid two-phase first is evaporated, refrigerated and absorbed the heat in the evaporator, becoming the gaseous refrigerant, then compressed by the compressor, becoming a high temperature and high pressure gaseous refrigerant, then condensed by the condenser into liquid refrigerant, through the expansion valve, then to the evaporator. In a word, the refrigerant will move the heat in the evaporation chamber to the condenser to discharge.



### 常规包装 Normal Packing:

制冷剂 REFRIGERANT	包装 PACKAGE	净重 N.W(G)	毛重 G.W(G)	数量/箱 QTY/CTN(PCS)
R12替代品 R12 REPLACEMENT	三片罐 THREE SLICES CAN	300	387	30
	两片罐 TWO SLICES CAN	750	920	15
		340	450	30
	500	660	20	
R134纯 R134A PURE	三片罐 THREE SLICES CAN	750	960	15
	两片罐 TWO SLICES CAN	300	387	30
		340	450	30
	500	660	20	
R134A替代品 R134A REPLACEMENT	三片罐 THREE SLICES CAN	900	1060	15
	两片罐 TWO SLICES CAN	300	387	30
		750	920	15
	340	450	30	
R22	两片罐 TWO SLICES CAN	500	660	20
		340	450	30
	900	1110	15	
R600a	三片罐 THREE SLICES CAN	120	207	30
	420	590	15	
R410A	两片罐 TWO SLICES CAN	450	660	15
R404A	两片罐 TWO SLICES CAN	650	880	15
R407C	两片罐 TWO SLICES CAN	600	830	15
R422D	两片罐 TWO SLICES CAN	700	930	15
R417A	两片罐 TWO SLICES CAN	700	930	15
R290	两片罐 TWO SLICES CAN	700	930	15
	两片罐 TWO SLICES CAN	400	610	15

## THE DETAILS OF THE MODELS

### 款型明细介绍



适用机型：以移动设备中的冷藏柜为主、例如游艇、汽车、卡车、带篷货车、客车。

Suitable machines: in mobile applications, e.g. cooling boxes, boats, caravans, trucks, vans, buses, etc.

应用范围：低背压、中背压、高背压

Applications: LBP, M/HBP

可用电压：12/24V DC, 48V可定制。

Available voltage: 12/24V DC, 48V can be customized.

制冷剂Refrigerants: R134a, R600a

制冷剂 Refrigerant	制冷量范围 Capacity Range				能效Efficiency		容积Displacement(cm <sup>3</sup> )	
	最小Min		最大Max		普效 OE		最小Min	最大Max
	W	BTU/h	W	BTU/h	COP	EER		
R134a	72	245.6	210	716.5	1.08	3.68	2.5	6.5
R600a	72	245.6	156	532.2	1.15	3.92	3.5	7.5

★ Capacity @ 3500RPM, -23.3°C for LBP.



适用机型：高端家用冰箱、冷柜。

Suitable machines: luxury household、refrigerators, freezers.

应用范围：低背压

Applications: LBP

制冷剂Refrigerants: R134a、R600a

可用电压Available voltage: 220-240V/50-60Hz, 110-120V/50-60Hz

制冷剂 Refrigerant	制冷量范围 Capacity Range				能效Efficiency		容积Displacement(cm <sup>3</sup> )	
	最小Min		最大Max		普效 OE		最小Min	最大Max
	W	BTU/h	W	BTU/h	COP	EER		
R134a	220	750.6	285	972.4	1.70	5.8	5.7	8.0
R600a	175	597.1	270	921.2	1.80	6.14	7.0	11.0

★ Capacity @ 4200RPM, -23.3°C for LBP.



适用机型：饮水机、饮料/啤酒柜、冰箱、冷柜

Suitable machines: Water dispensers, Bottlecoolers, Refrigerators, Freezers

应用范围：低背压、中背压、高背压

Applications: LBP, M/HBP

制冷剂Refrigerants: R134a, R600a, R290

可用电压Available voltage: 220-240V/50-60Hz, 110-120V/50-60Hz

适用机型：冰箱、冷柜、饮料/啤酒柜

Suitable machines: Refrigerators, Freezers, Bottle coolers

应用范围：低背压、中背压、高背压

Applications: LBP, M/HBP

制冷剂Refrigerants: R134a, R600a, R290, R404a

可用电压Available voltage: 220-240V/50-60Hz, 110-120V/50-60Hz

制冷剂 Refrigerant	制冷量范围 Capacity Range								能效Efficiency						容积 Displacement (CM <sup>3</sup> )		马力 HP	
	LBP				M/HBP				LBP			M/HBP			最小Min	最大Max	最小Min	最大Max
	最小Min	最大Max	最小Min	最大Max	普效 OE	高效 HE	普效 OE	最小Min	最大Max	最小Min	最大Max							
	W	BTU/h	W	BTU/h	W	BTU/h	W	BTU/h	COP	EER	COP	EER	COP	EER				
R134a	55	187.6	135	406.6	245	836	465	1586.6	1.05	3.58	1.30	4.43	1.00	3.41	2.5	5.7	1/12	1/5-
R600a	56	191	130	443.5	/	/	/	/	1.20	4.09	1.35	4.6	/	/	3.5	7.5	1/12	1/6-
R290	/	/	132	450	/	/	/	/	1.30	4.43	/	/	/	/	3.0	/	1/12+	/

★ Capacity @ -23.3°C for LBP, 7.2°C for M/HBP.

制冷剂 Refrigerant	制冷量范围 Capacity Range								能效Efficiency						容积 Displacement (CM <sup>3</sup> )		马力 HP	
	LBP				M/HBP				LBP			M/HBP			最小Min	最大Max	最小Min	最大Max
	最小Min	最大Max	最小Min	最大Max	普效 OE	高效 HE	普效 OE	最小Min	最大Max	最小Min	最大Max							
	W	BTU/h	W	BTU/h	W	BTU/h	W	BTU/h	COP	EER	COP	EER	COP	EER				
R134a	110	375.3	220	750.6	480	1637	525	1791	1.25	4.26	1.45	4.94	1.30	4.43	4.3	9.1	1/6-	1/3-
R600a	85	290	185	631.2	/	/	/	/	1.30	4.43	/	/	/	/	5.3	11.0	1/9	1/4
R290	208	709.7	265	904.1	/	/	/	/	1.45	4.94	/	/	/	/	4.5	5.5	1/5	1/4
R404a	244	832.5	305	1040	/	/	/	/	1.45	4.94	/	/	/	/	4.5	5.5	1/5	1/4

★ Capacity @ -23.3°C for LBP, 7.2°C for M/HBP



适用机型：冰箱、冷柜、饮料/啤酒柜

Suitable machines: Refrigerators, Freezers, Bottle coolers

应用范围：低背压

Applications: LBP

制冷剂Refrigerants: R134a, R600a

可用电压Available voltage: 220-240V/50-60Hz, 110-120V/50-60Hz

制冷剂 Refrigerant	制冷量范围 Capacity Range								能效Efficiency						容积 Displacement (CM <sup>3</sup> )		马力 HP	
	LBP				M/HBP				LBP			M/HBP						
	最小Min		最大Max		最小Min		最大Max		普效 OE		高效 HE		普效 OE					
	W	BTU/h	W	BTU/h	W	BTU/h	W	BTU/h	COP	EER	COP	EER	COP	EER				
R134a	110	375.3	185	631.2	/	/	/	/	1.10	3.75	/	/	/	/	4.3	7.7	1/6-	1/4
R600a	75	255.9	155	528.8	/	/	/	/	1.30	4.43	/	/	/	/	4.3	9.1	1/11	1/5

★ Capacity @ -23.3°C for LBP, 7.2°C for M/HBP.

适用机型：制冰机、啤酒柜、陈列柜

Suitable machines: Ice maker, Beers coolers, Merchandisers,

应用范围：低背压、中背压、高背压

Applications: LBP, M/HBP

制冷剂Refrigerants: R134a, R600a, R290, R404a

可用电压Available voltage: 220-240V/50-60Hz, 110-120V/50-60Hz

制冷剂 Refrigerant	制冷量范围 Capacity Range								能效Efficiency						容积 Displacement (CM <sup>3</sup> )		马力 HP	
	LBP				M/HBP				LBP			M/HBP						
	最小Min		最大Max		最小Min		最大Max		普效 OE		高效 HE		普效 OE					
	W	BTU/h	W	BTU/h	W	BTU/h	W	BTU/h	COP	EER	COP	EER	COP	EER				
R134a	165	563	270	921.2	665	2269	955	3258	1.25	4.26	1.70	5.80	2.30	7.84	6.6	11.0	1/4-	3/8
R600a	130	443.5	260	887.1	/	/	/	/	1.50	5.11	1.90	6.53	/	/	7.5	15.3	1/6-	1/3+
R290	340	1160	455	1518	/	/	/	/	1.40	4.96	/	/	/	/	6.0	9.0	1/3	1/2-
R404a	365	1245	515	1757	/	/	/	/	1.45	4.94	/	/	/	/	6.0	9.0	1/3	1/2-

★ Capacity @ -23.3°C for LBP, 7.2°C for M/HBP.

R22空调用立式压缩机性能参数 (Compressor performance parameters)



该系列产品现已应用到空调、除湿机和工业冷水机，油冷机等相关制冷领域。

Available for air-conditioner, dehumidifier and industrial water chillers, oil cooling unit etc.

R22空调用立式压缩机性能参数  
COMPRESSOR PERFORMANCE PARAMETERS

制冷剂 Refrigerant	电源规格 Power Supply	型号 Model	气缸容积 Cylinder Volume cm <sup>3</sup>	制冷量 Refrigerating Capacity		输入功率 Input Power W	COP值	运行电容 Run Capacitor μF/450V AC	压缩机高度 Height mm
				W	Btu/h				
R22	1PH 220V/50Hz	132E	13.2	2300	7820	770	3.07	25	263
		10E	9.6	1580	5440	550	2.87	15	293
		13E	13.5	2280	7752	740	3.08	25	293
		16E	16.4	2800	9520	910	3.08	25	293
		19E	19.2	3250	11050	1070	3.04	30	286
		21E	20.8	3520	11968	1180	2.98	30	307.5
		23E	23.5	3920	13328	1300	3.02	35	307.5
		25E	25.4	4220	14348	1410	2.99	35	307.5
		30E	30.7	5100	17340	1710	2.98	50	316.5
		33E	33.6	5600	19040	1900	2.95	50	316.5
		36E	35.7	5950	20230	2030	2.93	50	316.5
		41E	41.2	6900	23460	2360	2.93	50	359.4
	1PH 220-240V/50Hz	44E	44.2	7620	25908	2540	3.0	50	359.4
		75K	7.5	1280	4352	450	2.85	15	219
		92K	9.2	1600	5440	520	3.08	20	240
		92Y	9.2	1920	6528	620	3.10	20	250
		13Y	13.5	2730	9282	900	3.03	20	293
		16Y	16.4	3360	11424	1100	3.05	20	293
		19Y	19.2	3900	13260	1280	3.05	25	286
		21Y	20.8	4220	14348	1410	2.99	30	307.5
		25Y	25.4	5060	17204	1720	2.94	35	314.5
		27Y	26.4	5390	18326	1820	2.96	35	314.5
		33Y	33.6	6810	23154	2320	2.94	45	316.5
		36Y	35.7	7300	24820	2500	2.92	50	359.4

注: 产品性能参数随压缩机的改进而改变, 恕不另行通知  
NOTE: product performance parameters are subject to changes with improvement of compressors without notice.

压缩机测试工况  
TEST CONDITIONS:

用途 APPLICATION	环境温度 AMBIENT TEMP.	回气温度 RETURN GAS TEMP.	冷凝温度 CONDENSING TEMP.	过冷温度 SUBCOOLING TEMP.	蒸发温度 EVAPORATING TEMP.
高温 HIGH TEMP.	35℃	35℃	54.4℃	46.1℃	7.2℃

R407C、R410A、R134a立式压缩机性能参数  
(Compressor performance parameters)



该系列产品现已应用到空调、除湿机和工业冷水机等相关制冷领域。

Available for air-conditioner, dehumidifier and industrial water chillers, etc.

R407C、R410A、R134a立式压缩机性能参数  
COMPRESSOR PERFORMANCE PARAMETERS

制冷剂 Refrigerant	电源规格 Power Supply	型号 Model	气缸容积 Cylinder Volume cm <sup>3</sup>	制冷量 Refrigerating Capacity		输入功率 Input Power W	COP值	运行电容 Run Capacitor μF/450V AC	压缩机高度 Height mm	
				W	Btu/h					
R407C	220V-240V/50Hz	1PH	90K	9.0	1570	5338	500	3.14	20	247
		32K	13.2	2290	7786	790	2.90	25	263	
		10K	9.6	1580	5372	550	2.87	15	293	
		13K	13.5	2260	7684	760	2.97	25	293	
		16K	16.4	2670	9078	900	2.97	25	293	
		19K	19.2	3200	10880	1060	3.02	30	291	
		21K	20.8	3500	11900	1180	2.97	30	307.5	
		23K	23.5	3900	13260	1320	2.95	35	307.5	
		25K	25.4	4180	14212	1410	2.96	35	307.5	
		30K	30.7	5080	17272	1710	2.97	50	316.5	
		33K	33.6	5580	18972	1900	2.94	50	316.5	
		36K	35.7	5960	20264	2030	2.94	50	316.5	
	41K	41.2	6880	23392	2360	2.92	50	359.4		
	1PH 220V-240V/60Hz	75Y	7.5	1500	5100	500	3.0	20	247	
		32Y	13.2	2600	8840	900	2.89	30	265	
		13Y	13.5	2730	9282	900	3.03	20	293	
		1PH 115V/60Hz	90T	9.0	2540	8636	910	2.8	55	250
			75K	7.5	1870	6358	650	2.9	20	250
			86K	8.6	2150	7310	750	2.87	25	250
			196K	9.6	2280	7752	800	2.85	25	276
			35K	13.5	3190	10846	1120	2.85	30	307.5
			13K	11.3	2700	9180	960	2.84	25	276
		1PH 220V/60Hz	86Y	8.6	2550	8670	890	2.87	25	254
			75K	7.5	830	2822	290	2.87	15	219
92K			9.2	1050	3570	390	2.7	15	226	
32K	13.2		1470	4998	500	2.94	20	250		
96K	9.6		1100	3740	370	2.95	15	265		
34K	13.5		1500	5100	490	3.06	20	265		
1PH 220V-240V/50Hz	75T		7.5	1050	3570	350	3.0	20	219	
	92T		9.2	1250	4250	415	3.0	15	250	
	32T		13.2	1850	6290	615	3.0	20	263	
	54T		25.4	3500	11900	1185	2.95	50	307.5	
	32F		13.2	1450	4930	530	2.73	/	264	

注: 产品性能参数随压缩机的改进而改变, 恕不另行通知  
NOTE: product performance parameters are subject to changes with improvement of compressors without notice.

压缩机测试工况  
TEST CONDITIONS:

用途 APPLICATION	环境温度 AMBIENT TEMP.	回气温度 RETURN GAS TEMP.	冷凝温度 CONDENSING TEMP.	过冷温度 SUBCOOLING TEMP.	蒸发温度 EVAPORATING TEMP.
高温 HIGH TEMP.	35℃	35℃	54.4℃	46.1℃	7.2℃