



# Air Cooled Chiller

120-250 TON



ebm **papst**



**Castel**

تلفن : ۰۸۱- ۳۸۲۷۶۷۷۷  
تلفن : ۰۸۱-۳۴۵۸۶۵۲۳

آدرس دفتر مرکزی : همدان ، بلوار آیت ا... مدنی ، جنب پل تختی ، پلاک ۷۰ ، ساختمان شهر طبقه اول  
آدرس کارخانه : همدان ، شهرک صنعتی بهاران - خیابان نوزدهم پلاک ۲۲۳

# Air Cooled Chiller

**Model: HEAVY - Screw - R22/R407C**

Capacity: 60-560 TON (Nominal) Compressor: Screw Bitzer  Condenser: Air Cooled Fan ebmpapst/ ZILABEG

Expansion Valve: Electronic CAREL  Evaporator: Shell & Tube

Contain: Reciever Filter Drier, Sight Glass, Selonoid Valve  High & Low. KP Anti Freez Thermostat 

| MODEL: HEAVY - Screw-R22                                      |                 | HSW22060   |           | HSW22070                                  | HSW22080    | HSW22090               | HSW22110   | HSW22125                                         |         |
|---------------------------------------------------------------|-----------------|------------|-----------|-------------------------------------------|-------------|------------------------|------------|--------------------------------------------------|---------|
|                                                               | NOMINAL         | TON        | 60        | 70                                        | 80          | 90                     | 110        | 125                                              |         |
| CAPACITY                                                      | ACTUAL          | KW         | 147.0     | 172.0                                     | 198.0       | 240.0                  | 286.0      | 326.0                                            |         |
|                                                               |                 | TON        | 42        | 49                                        | 57          | 69                     | 82         | 93                                               |         |
|                                                               | TYPE            | 1 Circuit  |           | 1 Circuit                                 | 1 Circuit   | 1 Circuit              | 1 Circuit  | 1 Circuit                                        |         |
|                                                               | QTY             | -          | 1         | 1                                         | 1           | 1                      | 1          | 1                                                |         |
|                                                               | BRAND           | -          | Bitzer    | Bitzer                                    | Bitzer      | Bitzer                 | Bitzer     | Bitzer                                           |         |
| COMPRESSOR                                                    | MODEL           | 6563-60    |           | 7553-70                                   | 7563-80     | 7573-90                | 8553-110   | 8563-125                                         |         |
|                                                               | REFRIGERANT     |            | R22-R407C | R22-R407C                                 | R22-R407C   | R22-R407C              | R22-R407C  | R22-R407C                                        |         |
|                                                               | Max Current     | A          | 80        | 91                                        | 105         | 115                    | 150        | 163                                              |         |
|                                                               | COP             | -          | 3.5       | 3.4                                       | 3.5         | 37                     | 3.6        | 3.6                                              |         |
|                                                               |                 | FIN TUBE   |           | FIN TUBE                                  | FIN TUBE    | FIN TUBE               | FIN TUBE   | FIN TUBE                                         |         |
|                                                               | COIL            | QTY        | 4         | 4                                         | 6           | 6                      | 6          | 6                                                |         |
|                                                               |                 | ROW-FPI    | 4-12      | 4-12                                      | 4-12        | 4-12                   | 4-12       | 4-12                                             |         |
| CONDENSER                                                     |                 | QTY        | 4         | 4                                         | 6           | 6                      | 6          | 6                                                |         |
|                                                               | FAN             | MODEL      | 80        | 80                                        | 80          | 80                     | 80         | 80                                               |         |
|                                                               |                 | RPM        | 900       | 900                                       | 900         | 900                    | 900        | 900                                              |         |
|                                                               | TYPE            | SHELL TUBE |           | SHELL&TUB                                 | SHELLE TUBE | SHELLA                 | SHELL&TUBE | SHELL&TUBE                                       |         |
| EVAPORATOR                                                    | Water VOLUME    | LIT        | 95        | 90                                        | 100         | 100                    | 100        | 110                                              |         |
|                                                               | FLOW RATE       | GPM        | 100       | 117                                       | 135         | 164                    | 195        | 222                                              |         |
| UNIT DIMENSION                                                | L               | cm         | 260       | 260                                       | 380         | 380                    | 380        | 380                                              |         |
|                                                               | W               | cm         | 240       | 240                                       | 240         | 240                    | 240        | 240                                              |         |
|                                                               | H               | cm         | 260       | 260                                       | 260         | 260                    | 260        | 260                                              |         |
| CONNECTION                                                    | CONNECTION      | IN         | 3         | 3                                         | 3           | 4                      | 4          | 4                                                |         |
| ELECTRICAL DATA                                               | VOLTAGE         | V          | 380       | 380                                       | 380         | 380                    | 380        | 380                                              |         |
|                                                               | MAX POWER INPUT |            | 60        | 70                                        | 75          | 80                     | 90         | 100                                              |         |
|                                                               | MAX CURRENT     | A          | 100       | 110                                       | 120         | 135                    | 170        | 185                                              |         |
| Air Temperture Over Condenser Coil (T Ambient) F              |                 |            |           |                                           |             |                        |            |                                                  |         |
| Capacity Correction<br>Of Air Cooled Chiller<br>Capacity (KW) |                 |            |           | 100 (380)<br><br>Cooling<br>Capacity (KW) |             | Power<br>Input<br>(KW) |            | 105 (400)<br><br>Cooling<br>Capacity GPM<br>(KW) |         |
|                                                               | HSW22060        | 147        | 100       | 45                                        | 142         | 97                     | 46         | 139                                              | 139 95  |
|                                                               | HSW22070        | 172        | 117       | 117 53                                    | 165         | 113                    | 55         | 160                                              | 160 109 |
| Air Cooled                                                    | HSW22080        | 198        | 135       | 60                                        | 190         | 130 62                 | 13         | 184                                              | 126     |
| Chiller                                                       | HSW22090        | 240        | 164       | 164 69                                    | 230         | 157                    | 72         | 223                                              | 223 152 |
|                                                               | HSW22110        | 286        | 195       | 195 83                                    | 273         | 186 86                 | 18         | 265                                              | 265 181 |
|                                                               | HSW22125        | 326        | 222       | 95                                        | 312         | 213                    | 98         | 302                                              | 302 206 |



## Air Cooled Chiller

Model: HEAVY - Screw - R22/R407C

Capacity: 60-560 TON (Nominal) Compressor: Screw Bitzer  Condenser: Air Cooled Fan ebm  / ZILABEG

Expansion Valve: Electronic CAREL  Evaporator: Shell & Tube

Contain: Reciever Filter Drier, Sight Glass, Selonoid Valve  High & Low. KP Anti Freez Thermostat 

| MODEL: HEAVY - Screw-R22 |                 | R22-407C   | HSW22120   | HSW22140   | HSW22160   | HSW22180   | HSW22220      | HSW22250   |
|--------------------------|-----------------|------------|------------|------------|------------|------------|---------------|------------|
| CAPACITY                 | NOMINAL         | TON        | 120        | 140        | 160        | 180        | 220           | 250        |
|                          | ACTUAL          | KW         | 294.0      | 344.0      | 396.0      | 480.0      | 572.0         | 652.0      |
|                          |                 | TON        | 84         | 98         | 113        | 137        | 163           | 186        |
|                          | TYPE            | SCREW      | 2 Circuit  | 2 Circuit  | 2 Circuit  | 2 Circuit  | 2 Circuit     | 2 Circuit  |
|                          | QTY             | -          | 2          | 2          | 2          | 2          | 2             | 2          |
|                          | BRAND           | -          | Bitzer     | Bitzer     | Bitzer     | Bitzer     | Bitzer        | Bitzer     |
| COMPRESSOR               | MODEL           | C.S.H      | 6563-60    | 7553-70    | 7563-80    | 7573-90    | 7573-90 8553- | 8563-125.  |
|                          | REFRIGERANT     | TYPE       | R22-R407C  | R22-R407C  | R22-R407C  | R22-R407C  | R22-R407C     | R22 R407C  |
|                          | Max Current     | A          | 160        | 182        | 210        | 230        | 300           | 326        |
|                          | COP             | -          | 3.5        | 3.4        | 3.5        | 3.7        | 3.6.          | 3.6        |
|                          | COIL            | TYPE       | FIN TUBE   | FIN TUBE   | FIN TUBE   | FIN TUBE   | FIN TUBE      | FIN TUBE   |
|                          |                 | QTY        | 8          | 8          | 8          | 12         | 12            | 12         |
|                          |                 | ROW-FPI    | 4-12       | 4-12       | 4-12       | 4-12       | 4-12          | 4-12       |
| CONDENSER                | FAN             | QTY        | 8          | 8          | 8          | 12         | 12            | 12         |
|                          |                 | MODEL 80   | MODEL 80   | 80         | 80         | 80         | 80            | 80         |
|                          |                 | RPM        | 900        | 900        | 900        | 900        | 900           | 900        |
|                          | TYPE            | SHELL TUBE | SHELL&TUBE | SHELL&TUBE | SHELL&TUBE | SHELL&TUBE | SHELL&TUBE    | SHELL&TUBE |
| EVAPORATOR               | Water VOLUME    | LIT        | 120        | 150        | 160        | 180        | 200           | 260        |
|                          | FLOW RATE       | GPM        | 201        | 235        | 270        | 328        | 390           | 445        |
| UNIT DIMENSION           | L               | cm         | 480        | 480        | 480        | 700        | 700           | 700        |
|                          | W               | cm         | 240        | 240        | 240        | 240        | 240           | 240        |
|                          | H               | cm         | 260        | 260        | 260        | 260        | 260           | 260        |
| CONNECTION               | CONNECTION      | IN         | 5          | 5          | 6          | 6          | 6             | 6          |
| ELECTRICAL DATA          | VOLTAGE         | V          | 380        | 380        | 380        | 380        | 380           | 380        |
|                          | MAX POWER INPUT | KW         | 100        | 120        | 140        | 155        | 170           | 195        |
|                          | MAX CURRENT     | A          | 200        | 220        | 240        | 270        | 340           | 370        |





# Air Cooled Chiller

**Model: HEAVY - Screw - R134a**

Capacity: 60-560 TON (Nominal) Compressor: Screw Bitzer  Condenser: Air Cooled Fan ebm  / ZILABEG

Expansion Valve: Electronic CAREL  Evaporator: Shell & Tube

Contain: Reciever Filter Drier, Sight Glass, Selonoid Valve  High & Low. KP Anti Freez Thermostat 

| MODEL: HEAVY - Screw-R134a |                 | R134a      | HSW34060  | HSW34070  | HSW34080  | HSW34090  | HSW34110  | HSW34125  |
|----------------------------|-----------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| CAPACITY                   | NOMINAL         | TON        | 60        | 70        | 80        | 90        | 110       | 125       |
|                            | ACTUAL          | KW         | 122.0     | 144.0     | 167.0     | 190.0     | 238.0     | 262.0     |
|                            |                 | TON        | 35        | 41        | 48        | 54        | 68        | 75        |
|                            | TYPE            | SCREW      | 1 Circuit | 1 Circuit | 1 Circuit | 1 Circuit | 1 Circuit | 1 Circuit |
|                            | QTY             | -          | 1         | 1         | 1         | 1         | 1         | 1         |
| COMPRESSOR                 | BRAND           | -          | Bitzer    | Bitzer    | Bitzer    | Bitzer    | Bitzer    | Bitzer    |
|                            | MODEL           | CSH        | 6593-609  | 7573-704  | 7583-80Y  | 7593-904  | 8573-1109 | 8583-125Y |
|                            | REFRIGERANT     | TYPE       | R134a     | R134a     | R134a     | R134a     | R134a     | R134a     |
|                            | Max Current     | A          | 80        | 91        | 105       | 115       | 150       | 163       |
|                            | COP             | -          | 3.5       | 34        | 3.5       | 3.7       | 3.6       | 3.6       |
| CONDENSER                  | COIL            | TYPE       | FIN TUBE  | FIN TUBE  | FIN TUBE  | FIN TUBE  | FIN TUBE  | FIN TUBE  |
|                            |                 | QTY        | 4         | 4         | 6         | 6         | 6         | 6         |
|                            |                 | ROW-FPI    | 4-12      | 4-12      | 4-12      | 4-12      | 4-12      | 4-12      |
|                            |                 | QTY        | 4         | 4         | 6         | 6         | 6         | 6         |
|                            | FAN             | MODEL 80   | MODEL     | 80        | 80        | 80        | 80        | 80        |
|                            |                 | RPM        | 900       | 900       | 900       | 900       | 900       | 900       |
| EVAPORATOR                 | TYPE            | SHELL TUBE | SHELL&TUB | SHELL&TUB | SHELL&TUB | SHELL&TUB | SHELL&TUB | SHELL&TUB |
|                            | Water VOLUME    | LIT        | 90        | 90        | 100       | 100       | 100       | 110       |
|                            | FLOW RATE       | GPM        | 83        | 98        | 114       | 130       | 162       | 179       |
| UNIT DIMENSION             | L               | cm         | 260       | 260       | 380       | 380       | 380       | 380       |
|                            | W               | cm         | 240       | 240       | 240       | 240       | 240       | 240       |
|                            | H               | cm         | 260       | 260       | 260       | 260       | 260       | 260       |
| CONNECTION                 | INLET/OUTLET    | IN         | 3         | 3         | 3         | 4         | 4         | 4         |
| ELECTRICAL DATA            | VOLTAGE         | V          | 380       | 380       | 380       | 380       | 380       | 380       |
|                            | MAX POWER INPUT | KW         | 60        | 70        | 75        | 80        | 90        | 100       |
|                            | MAX CURRENT     | A          | 100       | 110       | 120       | 135       | 170       | 185       |

empreture Over Condenser Coil (T Ambient) F

| Capacity Correction Of Air Cooled Chiller |          | Power Input (KW) | 95 (35C) Cooling Capacity (KW) | GPM    | Power Input (KW) | 100 (380) Cooling Capacity (KW) | GPM    | Power Input (KW) | 105 (400) Cooling Capacity | GPM |
|-------------------------------------------|----------|------------------|--------------------------------|--------|------------------|---------------------------------|--------|------------------|----------------------------|-----|
|                                           | HSW34060 | 32               | 122                            | 83     | 34               | 116                             | 79     | 35               | 113                        | 77  |
|                                           | HSW34070 | 40               | 144                            | 98 42  | 98 42            | 137                             | 93     | 44               | 132 90                     | 132 |
| Air Cooled                                | HSW34080 | 45               | 167                            | 114    | 48               | 160                             | 109    | 50               | 155                        | 155 |
| Chiller                                   | HSW34090 | 51               | 190                            | 130    | 54               | 182                             | 124 56 | 124              | 176                        | 176 |
|                                           | HSW34110 | 62               | 238                            | 162 66 | 162              | 227                             | 155    | 69               | 220                        | 150 |
|                                           | HSW34125 | 70               | 262                            | 179    | 75               | 251                             | 171    | 78               | 244                        | 167 |

Note: Evaporator ,Our Water Temperature 12-70 Subcooling Superheat: 10 Altitude 38000ft

## Air Cooled Chille

Model: HEAVY - Screw - R134a

Capacity: 60-560 TON (Nominal) Compressor: Screw Bitzer  Condenser: Air Cooled Fan ebm  / ZILABEG

Expansion Valve: Electronic CAREL  Evaporator: Shell & Tube

Contain: Reciever Filter Drier, Sight Glass, Selonoid Valve  High & Low. KP Anti Freez Thermostat 

| MODEL: HEAVY - Screw -R134a |                 | R134a   | HSW34120   | HSW34140  | HSW34160  | HSW34220  |           | HSW34250   |
|-----------------------------|-----------------|---------|------------|-----------|-----------|-----------|-----------|------------|
|                             | NOMINAL         | TON     | 120        | 140       | 160       | 180       | 220       | 250        |
| CAPACITY                    | ACTUAL          | KW      | 244        | 288       | 334       | 380       | 476       | 524        |
|                             |                 | TON     | 70         | 82        | 95        | 109       | 136       | 150        |
|                             | TYPE            |         | 2 Circuit  | 2 Circuit | 2 Circuit | 2 Circuit | 2 Circuit | 2 Circuit  |
|                             | QTY             | -       | 2          | 2         | 2         | 2         | 2         | 2          |
|                             | BRAND           | -       | Bitzer     | Bitzer    | Bitzer    | Bitzer    | Bitzer    | Bitzer     |
| COMPRESSOR                  | MODEL           |         | 6593-609   | 7573-70V  | 7573-70V  | 7593-     | 8571-110Y | 8583-125Y  |
|                             | REFRIGERANT     | TYPE    | R134a      | R134a     | R134a     | R134a     | R134a     | R134a      |
|                             | Max Current     | A       | 160        | 182       | 210       | 230       | 300       | 326        |
|                             | COP             | -       | 3.5        | 3.4       | 3.5       | 3.7       | 3.6       | 3.6        |
|                             |                 |         | FIN TUBE   | FIN TUBE  | FIN TUBE  | FIN       | FIN TUBE  | FIN TUBE   |
|                             | COIL            | QTY     | 8          | 8         | B         | 12        | 12        | 12         |
|                             |                 | ROW-FPI | 4-12       | 4-12      | 4-12      | 4-12      | 4-12      | 4-12       |
| CONDENSER                   |                 | QTY     | 8          | 8         | 8         | 12        | 12        | 12         |
|                             | FAN             | MODEL   | BO         | 80        | 80        | 80        | 80        | 80         |
|                             |                 | RPM     | 900        | 900       | 900       | 900       | 900       | 900        |
|                             | TYPE            |         | SHELL TUBE | SHELL&TU  | SHELL&TU  | SHELL&    | SHELL&TU  | SHELL&TUBE |
| EVAPORATOR                  | Water VOLUME    | LIT     | 120        | 150       | 160       | 180       | 200       | 260        |
|                             | FLOW RATE       | GPM     | 167        | 197       | 228       | 259       | 325       | 358        |
| UNIT DIMENSION              | L               | cm      | 920        | 920       | 920       | 1150      | 1360      | 1360       |
|                             | W               | cm      | 240        | 240       | 240       | 240       | 240       | 240        |
|                             | H               | cm      | 260        | 260       | 260       | 260       | 260       | 260        |
| CONNECTION                  | INLET/OUTLET    | IN      | 5          | 5         | 6         | 6         | 6         | 6          |
| ELECTRICAL                  | VOLTAGE         | V       | 380        | 380       | 380       | 380       | 380       | 380        |
| DATA                        | MAX POWER INPUT |         | 100        | 120       | 140       | 155       | 170       | 195        |
|                             | MAX CURRENT     | A       | 200        | 220       | 240       | 270       | 340       | 370        |

Air Temperture Over Condenser Coil (T Ambient) F

| Capacity Correction   |               | 95 (350) |         |                  |                       | 100 (380) |            |                       |         | 105 (40C) |  |
|-----------------------|---------------|----------|---------|------------------|-----------------------|-----------|------------|-----------------------|---------|-----------|--|
| Of Air Cooled Chiller |               |          |         |                  |                       | Power     |            |                       |         |           |  |
|                       | Capacity (KW) |          |         | Power Input (KW) | Cooling Capacity (KW) | GPM       | Input (KW) | Cooling Capacity (KW) |         |           |  |
|                       | HSW34120      | 244      | 167     | 68               | 232                   | 158       | 71         | 226                   | 226 154 |           |  |
|                       | HSW34140      | 288      | 197     | 84               | 274                   | 187 87    | 187        | 264                   | 264 180 |           |  |
| Air Cooled            | HSW34160      | 334      | 228     | 96               | 320                   | 218 100   | 218        | 310                   | 310 212 |           |  |
| Chiller               | HSW34180      | 380      | 259 108 | 259 108          | 364                   | 248       | 112        | 352                   | 352 240 |           |  |
|                       | HSW34220      | 476      | 325 132 | 325 132          | 454                   | 310 138   | 310        | 440                   | 440 300 |           |  |
|                       | HSW34250      | 524      | 358     | 149              | 502                   | 343 156   | 343        | 488                   | 488 333 |           |  |

Evaporator IN/OUT Winer Vemperature 12-PC Outdoor Air Temperature: 150 Subcooling 5 Superheat 10. Altitude 3800

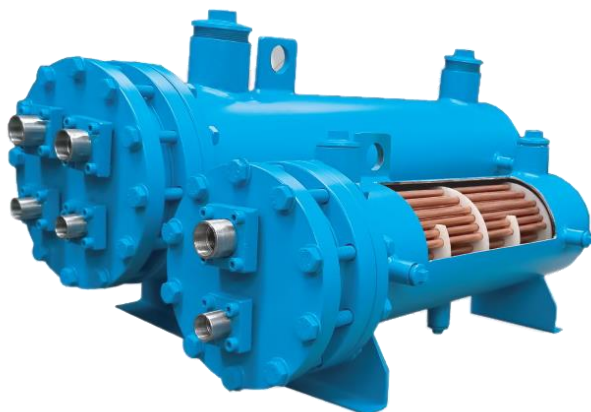
| COMPRESSOR:                         |                                    |        | کمپرسور                     |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------|-----------------------------|
| Items                               | Description                                                                                                          |        | مشخصات                      |
| Compress Technology                 | Screw                                                                                                                |        | تکنولوژی ایجاد تراکم        |
| Brand                               | BITZER (Original)                                                                                                    |        | برند                        |
| Manufacturer                        | GERMANY                                                                                                              |        | کشور تولید کننده            |
| Type                                | Semi hermetic                                                                                                        |        | نوع پوسته کمپرسور           |
| Economizer                          | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> NO                                                  |        | اکنونایزر                   |
| Starting type                       | <input checked="" type="checkbox"/> Part winding <input type="checkbox"/> Star/Delta <input type="checkbox"/> Direct |        | نحوه راه اندازی کمپرسور     |
|                                     | Yes                                                                                                                  |        | راه اندازی بی بار           |
| Oil level switch                    | Yes                                                                                                                  |        | کلید کنترل سطح روغن         |
| Oil heater                          | Yes                                                                                                                  |        | گرم کننده روغن              |
| Discharge shut-off valve            | Yes                                                                                                                  |        | شیر قطع کننده خط دهش        |
| Suction shut-off valve              | Yes                                                                                                                  |        | شیر قطع کننده خط مکش        |
| Motor winding temp. control         | Yes                                                                                                                  |        | کنترل دمای سیم پیچ موتور    |
| Motor rotation control              | Yes                                                                                                                  |        | کنترل جهت چرخش موتور        |
| Oil temp./pressure control          | Yes / Yes (level control)                                                                                            |        | کنترل فشار دمای روغن        |
| Oil filter / Oil mesh               | Standard-built in                                                                                                    |        | فیلتر روغن صافی روغن        |
| Compressor model                    | CSH6563-60Y-60P                                                                                                      |        | مدل کمپرسور                 |
| No. of Compressor                   | 2                                                                                                                    |        | تعداد کمپرسور               |
| Liquid sub cooling                  | 6°C                                                                                                                  |        | کاهش دمای مایع مادون سرد    |
| Suction superheat in the evaporator | 6°C                                                                                                                  |        | سوپرهیت خط مکش در اواپراتور |
| Refrigerant                         | HFC-R134a                                                                                                            |        | مبرد                        |
| Displacement at 50Hz (m³/h)         | 195 x2                                                                                                               |        | حجم جابه جایی در فرکانس ۵۰  |
| Oil type                            | <input checked="" type="checkbox"/> BSE170 <input type="checkbox"/> B320SH                                           |        | نوع روغن                    |
| Ambient Temp.                       | 35                                                                                                                   | 41     | (C) دمای محیط               |
| Evaporating Temp.                   | 4                                                                                                                    | 4      | (C) دمای تبخیر              |
| Condensing Temp.                    | 51                                                                                                                   | 57     | (C) دمای چگالش              |
| Cooling capacity                    | 157 x2                                                                                                               | 147 x2 | (KW) ظرفیت برودتی           |
| Refrigeration Act. Ton (Ton)        | 90                                                                                                                   | 84     | تناژ برودتی واقعی (تن)      |
| Power input                         | 100 x2                                                                                                               | 105 x2 | (KW) برق مصرفی              |
| COP/EER                             | 3.30                                                                                                                 | 2.66   | (W/W) نسبت راندمان انرژی    |

| Items                              | Description                                                                                                                                                                                      | مشخصات                   |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Coil                               |                                                                                                                                                                                                  | کویل                     |
| Tube spec.                         | 3/8" (Copper, inner grooved)                                                                                                                                                                     | مشخصات لوله              |
| Coil arrangement                   | <input checked="" type="checkbox"/> V <input type="checkbox"/> W <input type="checkbox"/> VR <input type="checkbox"/> F                                                                          | چینش کویل                |
| Fin spacing (FPI)                  | <input type="checkbox"/> 8 <input type="checkbox"/> 10 <input checked="" type="checkbox"/> 12 <input type="checkbox"/> 14                                                                        | فاصله فینها (FPI)        |
| No. Of row                         | <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input checked="" type="checkbox"/> 4 <input type="checkbox"/> Othe                                                                        | تعداد ردیف لوله های کویل |
| Exchange surface (m <sup>2</sup> ) | 766                                                                                                                                                                                              | سطح تبادل حرارتی         |
| Coating                            | <input type="checkbox"/> Polyurethane – liquid spray 50µm <input type="checkbox"/> Option(flooded)<br><input type="checkbox"/> Gold/Blue fin <input checked="" type="checkbox"/> Not applicable  | پوشش فینهای کویل         |
| Fin spec.                          | ALUMINIUM, waved, 130µm                                                                                                                                                                          | مشخصات فین               |
| Fluid                              | <input checked="" type="checkbox"/> R134a <input type="checkbox"/> R22 <input type="checkbox"/> R407C <input type="checkbox"/> R410A <input type="checkbox"/> R404A                              | سیال درون کویل           |
| Fan                                |                                                                                                                                                                                                  | فن                       |
| Brand                              | <input type="checkbox"/> EBM<br><input checked="" type="checkbox"/> ZIEHL-ABEGG<br><input type="checkbox"/> Rosenberg                                                                            | برند                     |
| No. Of fan                         | 8 pcs                                                                                                                                                                                            | تعداد فن(ها)             |
| Type                               | <input checked="" type="checkbox"/> External rotor <input checked="" type="checkbox"/> IP 54 <input checked="" type="checkbox"/> HyBlade <input checked="" type="checkbox"/> Internal thermistor | نوع فن                   |
| Fan control                        | <input checked="" type="checkbox"/> AC (On/Off control)<br><input type="checkbox"/> EC (variable speed control) (Option)                                                                         | کنترل فن                 |
| Fan Diameter                       | <input type="checkbox"/> 500mm <input checked="" type="checkbox"/> 800mm <input type="checkbox"/> 910mm                                                                                          | قطر فن                   |
| Max. Power input (each)            | 0.72 kW <input checked="" type="checkbox"/> 1.94 kW <input type="checkbox"/> 2.48 kW                                                                                                             | برق مصرفی                |
| Max. Current (each)                | 1.41 A <input checked="" type="checkbox"/> 3.9 A <input type="checkbox"/> 5.15 A                                                                                                                 | حداکثر آمپر              |
| Total air delivery                 | 157600 m <sup>3</sup> /h                                                                                                                                                                         | هوادهی کل                |
| Rpm                                | 900 RPM                                                                                                                                                                                          | سرعت چرخش فن             |
| Sound pressure level (10m)         | 46.5 dB(A)                                                                                                                                                                                       | میزان صدا                |
| Main supply                        | 400 / 3 / 50 V / Ph / Hz                                                                                                                                                                         | برق تغذیه                |

| Items                                                                                                                     | Description                                                                                                                                                                                                                                                                                                                                                                     |          | مشخصات                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------|
| No. of evaporator<br>Type<br>Copper tube<br>Baffle<br>Shell<br>Tube sheet<br>Heat Transfer Fluid                          | 1 set<br><input checked="" type="checkbox"/> Shell & Tub <input type="checkbox"/> Brazed plate<br>5/8", copper, wall thick. 0.7mm<br>PTFE -5 mm<br>carbon steel (SCH = STD), ASME B36.10 33-40 mm,<br>Carbon steel (ST-52), ASTM A572<br>Water                                                                                                                                  |          | تعداد اواپراتور<br>نوع مبدل<br>لوله مسی<br>بافل<br>پوسته<br>صفحه نگهدار لوله<br>سیال کاری                |
| Nominal water flow rate                                                                                                   | GPM                                                                                                                                                                                                                                                                                                                                                                             | 210.18   | نرخ اسمی جریان آب                                                                                        |
| Max. (allowable) water flow rate                                                                                          | GPM                                                                                                                                                                                                                                                                                                                                                                             | 250      | حداکثر نرخ (مجاز) جریان آب                                                                               |
| Min. outlet water temp.                                                                                                   | °C (without glycol)                                                                                                                                                                                                                                                                                                                                                             | 6        | حداقل دمای خروجی آب                                                                                      |
| In./out. water temp.                                                                                                      | °C                                                                                                                                                                                                                                                                                                                                                                              | 12-7     | دمای ورود خروج آب                                                                                        |
| Max. fouling factor                                                                                                       | m <sup>2</sup> k/W                                                                                                                                                                                                                                                                                                                                                              | 0.000018 | حداکثر ضریب رسوب                                                                                         |
| Test pressure (refrigerant side)                                                                                          | bar (NITROGEN)                                                                                                                                                                                                                                                                                                                                                                  | 20       | فشار آزمایش (سمت مبرد)                                                                                   |
| Test pressure (water side)                                                                                                | bar                                                                                                                                                                                                                                                                                                                                                                             | 14       | فشار آزمایش (سمت آب)                                                                                     |
| Pressure drop (water side)                                                                                                | bar                                                                                                                                                                                                                                                                                                                                                                             | 0.35     | افت فشار (سمت آب)                                                                                        |
| Max. working pressure (water)                                                                                             | bar                                                                                                                                                                                                                                                                                                                                                                             | 10       | حداکثر فشار کاری (سمت آب)                                                                                |
| Water in./out. connection size.                                                                                           | <input type="checkbox"/> 1 1/4" <input type="checkbox"/> 1 1/2" <input type="checkbox"/> 2" <input type="checkbox"/> 2 1/2" <input type="checkbox"/> 3" <input checked="" type="checkbox"/> 4"<br><input type="checkbox"/> 5" <input type="checkbox"/> 6" <input type="checkbox"/> 8"   Flange -DIN2633                                                                         |          | سایز اتصال ورودی خروجی آب                                                                                |
| No. of refrigerant Circuit<br>Isolation<br>Anti-freeze port<br>Anti-freeze electric heater<br>Special protective wrapping | <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4<br>YES, EPDM/PE<br>YES, <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2<br><input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (option)<br><input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (option) |          | تعداد مدار مبرد<br>عایق<br>پورت سنسور ضد انجماد<br>گرمکن برقی ضد یخ زدگی<br>پوشش افزایش مقاومت سطحی عایق |
| <b>Sealing</b><br>Refrigerant connection<br>Tips                                                                          | Tube expanding tech. with sealant.<br>I flange by <b>HEGMATAN TAHVIEH</b> .<br>Highly stable operating due to excellent refrigerant Distribution.<br>Designed for lower water side pressure drops.                                                                                                                                                                              |          | آب بندی<br>اتصال مبرد<br>سایر نکات                                                                       |

## EVAPORATOR

Shell & Tub - **U-Type**





| Items                       | مشخصات                                    | Descriptio                                                                      | Brand                     |
|-----------------------------|-------------------------------------------|---------------------------------------------------------------------------------|---------------------------|
| Expansion valve             | شیر انبساط                                | Electronically                                                                  | CAREL/DANFOSS             |
| Solenoid valve              | شیر برقی                                  | Yes                                                                             | DANFOSS/CASTEL/GMC        |
| Sight glass (Liquid line)   | شیشه بازدید (خط مایع)                     | Yes                                                                             | GMC/CASTEL/IGLOO/GVN      |
| HP limiter/LP limiter       | کلید قطع فشار بالا<br>کلید قطع فشار پایین | Yes                                                                             | DANFOSS/ALCO              |
| Anti-freeze-STAT (manual    | سنسور ضد انجماد                           | Yes                                                                             | IT/PENN/DANFOSS/ALRE      |
| Filter drier                | فیلتر رطوبت گیر                           | Yes                                                                             | GMC/CASTEL/DANFOSS        |
| Vibration isolator          | جاذب ارتعاش                               | Not Applicable                                                                  | PACKLESS/COOLMATE/HANJING |
| Ball valve                  | شیر تویی                                  | Yes                                                                             | CASTEL/GMC/IGLOO/E.C.A    |
| HP transmitter              | سنسور فشار بالا                           | Yes                                                                             | CAREL                     |
| LP transmitter              | سنسور فشار پایین                          | <input checked="" type="checkbox"/> No<br><input type="checkbox"/> Yes (option) | CAREL                     |
| Liquid filled pressure gage | گیج فشار                                  | Yes                                                                             | WIKA/LRT/JAKO/NIK         |
| Check valve                 | شیر یک طرفه                               | Yes                                                                             | CASTEL/GMC                |
| Flow switch                 | کلید کنترل جریان                          | By customer                                                                     | -                         |
| Discharge gas temp. sensor  | سنسور دمای گاز خط دهش                     | Yes                                                                             | CAREL                     |
| Suction gas temp. sensor    | سنسور دمای کار خط مکش                     | <input type="checkbox"/> No<br><input checked="" type="checkbox"/> Yes (option) | CAREL                     |
| In./out. water temp. sensor | سنسور دمای آب ورودی / خروجی               | Yes                                                                             | CAREL                     |
| Relief valve                | شیر اطمینان                               | Yes                                                                             | CASTEL/GMC                |
| Pressure line (transfer)    | خط فشار (انتقال)                          | flexible thermo plastic hoses, transfer oil-gomax                               |                           |
| Refrigerant (manufacturer)  | مبرد(تولید کننده)                         | JH/TARGET/D.Y./ALFA                                                             |                           |

## CONTROLLERS / INDICATORS

کنترلرها / شاخص ها



| Items                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       | مشخصات                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| No. of panel                    | 1 set                                                                                                                                                                                                                                                                                                                                                                                                                                             | تعداد تابلو                                  |
| Switch board spec.              | IP 54 - electro static powder coating - RAL 1355<br>400 V/3 PH / 50 Hz                                                                                                                                                                                                                                                                                                                                                                            | مشخصات تابلو برق                             |
| Working/Max. power input        | 85.71 kW                                                                                                                                                                                                                                                                                                                                                                                                                                          | برق مصرفی کاری / حداکثر                      |
| Working/Max. current (at 400 v) | 140.127 A                                                                                                                                                                                                                                                                                                                                                                                                                                         | آمپر مصرفی کاری / حداکثر                     |
| Main incoming device            | MCCB type (SCHNEIDER / HYUNDAI)                                                                                                                                                                                                                                                                                                                                                                                                                   | ورودی اصلی تابلو                             |
| Compressor circuit breakers     | SCHNEIDER / HYUNDAI                                                                                                                                                                                                                                                                                                                                                                                                                               | کلید اتوماتیک ورودی کمپرسورها                |
| Compressor contactor            | SCHNEIDER / HYUNDAI                                                                                                                                                                                                                                                                                                                                                                                                                               | کنتاکتور کمپرسورها                           |
| Thermal magnetic breakers       | SCHNEIDER / HYUNDAI                                                                                                                                                                                                                                                                                                                                                                                                                               | فیوزهای مغناطیسی حرارتی                      |
| Over load                       | SCHNEIDER / HYUNDAI                                                                                                                                                                                                                                                                                                                                                                                                                               | کلید محافظت کننده اضافه بار (کنتاکتور فن ها) |
| Phase monitoring relay          | شیوا امواج                                                                                                                                                                                                                                                                                                                                                                                                                                        | کنترل فاز                                    |
| Terminal                        | RAAD                                                                                                                                                                                                                                                                                                                                                                                                                                              | ترمینال                                      |
| Selector switch                 | SCHNEIDER / HYUNDAI                                                                                                                                                                                                                                                                                                                                                                                                                               | کلید سلکتوری                                 |
| Controller / PLC                | CAREL                                                                                                                                                                                                                                                                                                                                                                                                                                             | کنترلر / PLC                                 |
| Human Machine Interface         | CAREL                                                                                                                                                                                                                                                                                                                                                                                                                                             | نمایشگر کنترلر                               |
| Solid state relay               | CELDUC                                                                                                                                                                                                                                                                                                                                                                                                                                            | رله ترانزیستوری                              |
| Fuse carrier                    | ETI                                                                                                                                                                                                                                                                                                                                                                                                                                               | حامل فیوز (فیوز استوانه‌ای)                  |
| Tips                            | Fixed with vibration dampers for vibration free working condition<br>Removable gland plate<br>Galvanize component tray<br>All nut is built in on component tray<br>220 volt socket and night light<br>Lap top and document holder<br>3 point door lock latch for so better sealing<br>Special attention to dust proof<br>Second door for sunlight and rain proof for keys and display<br>Second door for sunlight and rain proof for main cabinet | سایر نکات                                    |

\*تحويل و برقراری شبکه ارت با مقاومت کمتر از دو اهم، ضروری و در تعهد خریدار میباشد.



## FRAME

### فریم و بدنه

| Items             | Description                                                                                                                                                                   | مشخصات                        |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Frame             | Full modular                                                                                                                                                                  | فریم و بدنه                   |
| Coating           | electro static powder coating type (RAL-1355) , 80 - 120 micron                                                                                                               | پوشش                          |
| Bolt and nut      | tempered class 8.8 galvanized - lock nuts                                                                                                                                     | پیچ و مهره                    |
| Hook point        | yes 4 point                                                                                                                                                                   | قلاب جهت بلند کردن            |
| Dimension (L×W×H) | (4860×2290×2170) mm                                                                                                                                                           | ابعاد                         |
| Weight (shipping) | 4000 kg                                                                                                                                                                       | وزن تقریبی (هنگام حمل دستگاه) |
| Weight (working)  | 4095 kg                                                                                                                                                                       | وزن تقریبی (در شرایط کاری)    |
| Tips              | easy access , easy installation , assembling in place<br>manufactured from steel sheet 2 , 2.5 , 3 , 4 , 5 mm<br>guard for condenser coil manufactured with NC & CNC machines | سایر نکات                     |

