# Refrigerated Dryers

## Dry Air Technology

## by Arrow Pneumatics

**Fred C. Gilbert Co.**
**106 Norris Road**
**Bakersfield, Ca. 93308**
**661-399-9569**
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Quality Air Preparation Equipment

## STEP 1

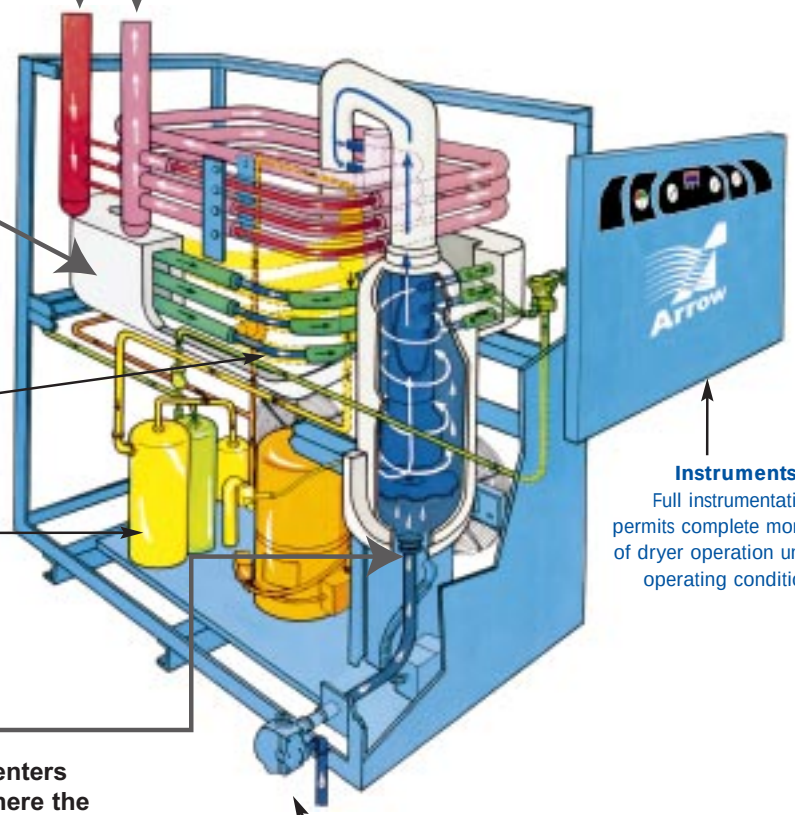
**Hot, moist air from the air compressor enters the heat exchanger where it is cooled.**

## STEP 4

**Air is now sent back to the air-to-air heat exchanger where it is reheated for plant use.**

## STEP 2

**Air now moves from the air-to-air heat exchanger to the refrigerant-to-air heat exchanger where it is cooled to 35ºF.**




**Hot Gas Bypass System**
Controls refrigerant suction pressure in refrigerant-to-air heat exchanger. This allows trouble-free operation under zero load without danger of freeze-up.

**Suction Line Accumulator**
Included on all units 1/2 h.p. and larger; protects compressor under varying loads by preventing liquid refrigerant from returning to refrigerant compressor, which could cause damage.

**Instruments**
Full instrumentation permits complete monitoring of dryer operation under all operating conditions.

## STEP 3

**Chilled air now enters the separator where the moisture is separated from the incoming air. The air is now at 35ºF dew point**

**Heavy Duty Automatic Drain**
Trouble-free, heavy-duty steel, ball float type, is externally mounted for easy monitoring and service.

### Modular Construction

Main heat exchangers 100% copper tubing, an air-to-air and a refrigerant-to-air, are made up of a stack of individual coils with a common header at each end. Each double tube coil is individually fed by a refrigerant line from the expansion valve to eliminate hot spots and insure the most efficient cooling of air in the inner tube.

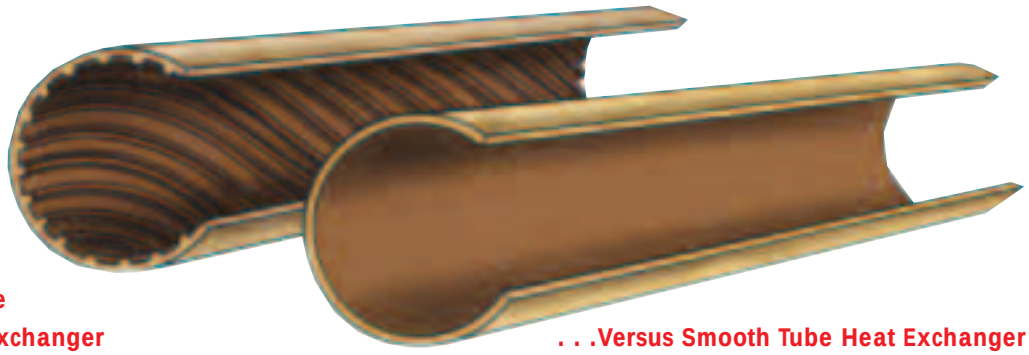
### Refrigerant Feeder Assembly

Refrigerant is metered in equal amounts to each coil so refrigerant is evenly spread throughout the entire heat exchanger system. Utilizes quick response expansion valves instead of cheaper capillary tubes.

### Controls

Highest quality controls are used throughout:

- Oil pressure safety switch protects compressor in case of low oil pressure.
- Water regulating valve, standard on water cooled units, conserves water usage.
- Low pressure and high pressure cutout switches protect refrigerator system from unsafe operating conditions.



## Arrow's Exclusive Spiral Fin Heat Exchanger

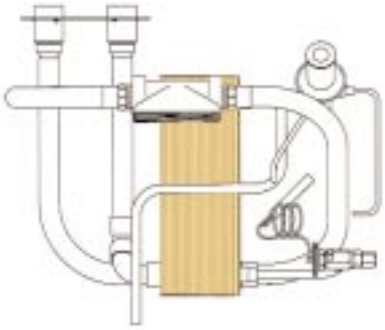
Arrow spiral fin tubing acts as a cold mechanical separator. sThe fins create turbulent flow and rotate the moisture laden air as it passes through the tubing. The turbulent flow and centrifugal forces generated cause the moisture and fog to condense rapidly and completely into water droplets. These droplets are trapped in the grooves between the fins and are easily removed by a mechanical separator.

## . . .Versus Smooth Tube Heat Exchanger

By contrast, smooth tubing does not effectively tumble the air to cause all the molecules to come into contact with the cold tubing. Additionally, laminar flow does not permit effective condensation, and much of the condensate leaves the tube in the form of fog. A mechanical separator will not remove this fog and it is passed into the air stream in the form of a much higher dew point.

## New! Braze Plate Design

New Arrow brazed plate heat exchangers in our "F-Series" dryers, Models F-10/20 thru F-150, provide turbulent flow, high heat transfer coefficients, lower pressure drops, in a compact size. These heat exchangers are made up of corrugated "herringbone" patterned AISI 316 type stainless steel channel plates. These plates are brazed together by using 99.9% pure copper, at all contact points and creates a completely hermetically sealed unit.. They are helium leak tested for internal and external leaks down to a volumetric equivalent to less than 2.8 grams of R-22 refrigerant per year. Arrow Pneumatics has incorporated this design in the new "F-Series" line of dryers. Our goals are to provide you with quality products adding higher efficiencies, reduced cabinet sizes, simplified installations and lower shipping costs



## Automatic Pump-Down System

Runs for a short period after dryer is shut down to pump accumulated refrigerant from low pressure side of refrigerant system. Standard on all larger units. This prevents liquid refrigerant from migrating back to the compressor during shut-down, which could cause any refrigerant compressor to fail.

## Crankcase Heater

Standard on 1-1/2 hp. and larger units. Keeps liquid refrigerant from contaminating compressor lubricating oil by heating refrigerant above evaporation point. Further protection for your system.

## Semi-Hermetic Compressor

Semi-hermetic compressors are standard on 500 CFM to 2,500 CFM "C" series cycling dryers, as well as all units 3,000 cfm and above. These refrigerant compressors are more efficient and have a longer life than hermetic compressors. They provide substantial energy savings at less than full-load conditions.

## F-05/10 thru F-30/40

- Pressure Dew Point as low as 35°F
- Entire Heat Exchanger Thermally Insulated
- Stainless Steel Heat Exchanger
- Built-in 40 Micron Particulate Filter
- R-134A Refrigerant
- Compressor Thermal Overload
- Mechanical Moisture Separator with Automatic Float Type Drain @ 99.97% Efficiency
- Constant Pressure Expansion Valve
- Refrigerant Suction Pressure Gauge* ***F-10/20 & F-30/40**
- Electrical Cord with Grounded Plug (115 volt units only)
- Max. Operating Pressure Rated @ 250 psi
- One Year Warranty

## F-50

- Pressure Dew Point as low as 35°F
- Entire Heat Exchanger Thermally Insulated
- Stainless Steel Heat Exchanger
- Built-in 40 Micron Particulate Filter
- Power Light On/Off Switch
- R-134A Refrigerant
- Compressor Thermal Overload
- Mechanical Moisture Separator with Zero Air Loss Demand Drain
- Thermal Expansion Valve
- Refrigerant Suction Pressure Gauge
- 6 ft. Electrical Cord with Grounded Plug (115 volt units only)
- Hot Gas Bypass System
- Max. Operating Pressure Rated @ 250 psi
- One Year Warranty

## F-70/100 & F-125

- Pressure Dew Point as low as 35°F
- Entire Heat Exchanger Thermally Insulated
- Stainless Steel Heat Exchanger
- Built-in 40 Micron Particulate Filter
- Power Light On/Off Switch
- Compressor Thermal Overload
- Mechanical Moisture Separator with zero air loss demand drain
- Thermostatic Expansion Valve
- Refrigerant Suction Pressure Gauge
- 6 ft. Electrical Cord with Grounded Plug (115 volt units only)
- Suction Line Accumulator
- R-22 Refrigerant
- Air or Water Cooled Condensers* ***F125 Only**
- Hot Gas Bypass System
- Max. Operating Pressure Rated @ 250 psi
- One Year Warranty

## F-150

- Pressure Dew Point as low as 35°F
- Entire Heat Exchanger Thermally Insulated
- Stainless Steel Heat Exchanger
- Built-in 90 Micron Particulate Filter
- Power Light On/Off Switch
- Compressor Thermal Overload
- Corrosion Resistant Coalescing Separator with 2 stage Separation and Zero Loss Demand Drain
- Thermostatic Expansion Valve
- Refrigerant Suction Pressure Gauge
- Air Inlet Temperature Gauge
- Air Inlet Pressure Gauge
- Max Operating Pressure Rated at 250 psi
- Suction Line Accumulator
- R-22 Refrigerant
- Hot Gas Bypass System
- Air or Water Cooled Condensers
- Max. Operating Pressure Rated @ 250 psi
- One Year Warranty

## A-200

- Pressure Dew Point as low as 35°F
- Spiral Fin Tubing
- Built-in 40 Micron Particulate Filter
- Power Light On/Off Switch
- R-22 Refrigerant
- Mechanical Moisture Separator with Zero Air Loss Demand Drain
- Thermostatic Expansion Valve
- Hot Gas Bypass System
- Suction Line Accumulator
- Refrigerant Sight Glass
- Refrigerant Filter-Dryer
- Air or Water Cooled Condensers
- Air Inlet Temperature Gauge
- Refrigerant Suction Pressure Gauge
- Air Inlet Pressure Gauge
- One Year Warranty
- Max. Operating Pressure Rated @ 250 psi
- Five Year Heat Exchanger Warranty

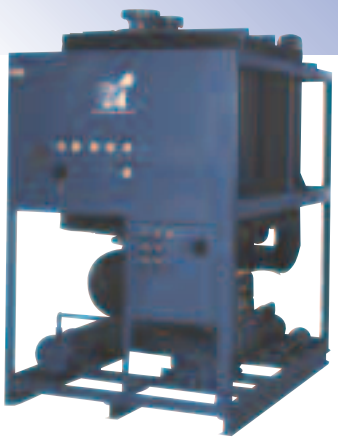
## A-250 & A-300

- Pressure Dew Point as low as 35°F
- Spiral Fin Tubing
- Built-in 40 Micron Particulate Filter
- Power Light On/Off Switch
- R-22 Refrigerant
- Mechanical Moisture Separator with Zero Air Loss Demand Drain
- Thermostatic Expansion Valve
- Hot Gas Bypass System
- Suction Line Accumulator
- Refrigerant Sight Glass
- Refrigerant Filter-Dryer
- Air or Water Cooled Condensers
- Refrigerant Suction Pressure Gauge
- Air Inlet Temperature Gauge
- Air Inlet Pressure Gauge
- Digital Display Panel
- Low Refrigerant Pressure Safety Switch
- Max. Operating Pressure Rated @ 250 psi
- One Year Warranty
- Five Year Heat Exchanger Warranty

## Models 3512 thru 3519

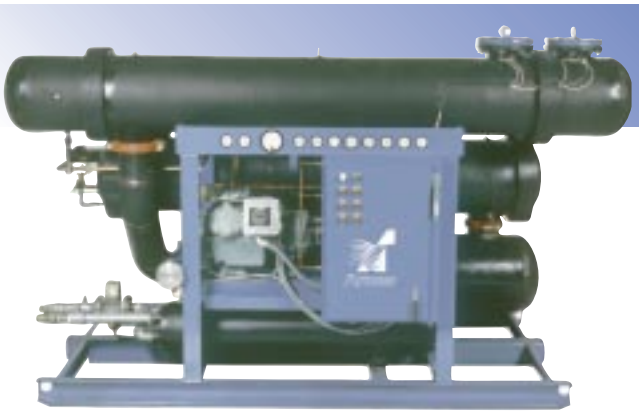
- "C" Series Cycling Dryers Available
- Produce 340 to 1600 SCFM of Air with a Pressure Dew Point as low as 35°F
- Spiral Fin Tubing
- Heavy-duty Automatic Drain Standard
- Mechanical Water Separator
- Refrigerant Filter Standard
- Digital Panel Display
- Quick Response Expansion Valve Standard
- Hot Gas Bypass Valve Standard
- Crankcase Heater Standard
- Automatic Pump-down System Standard on 3514 and up
- Suction Line Accumulator Standard
- Water Regulating Valve Standard on Water Cooled Units
- One Year Warranty
- Five Year Heat Exchanger Warranty

## Models 3521 thru 3560W



- "C" Series Cycling Dryers Available
- Produce 2,000 scfm to 5,000 scfm of Air with a 35°F Pressure Dew Point at 100 psig
- NEMA 12 Electrical Enclosure Standard (3523 and larger)
- Full Instrumentation to Monitor Performance
- Energy Savings up to 56% Available with Optional Cylinder Uploaders
- Spiral Fin Tubing
- Heavy-duty Automatic Drain
- Mechanical Water Separator
- Refrigerant Filter
- Quick Response Expansion Valve
- Hot Gas Bypass System
- Suction Line Accumulator
- Crankcase Heater
- Automatic Pump-down System
- Water Regulating Valve Standard on Water Cooled Units
- Unsafe Condition Indicator Lights
- Five Year Heat Exchanger Warranty

## Models 4041W thru 4046W



- Produce 5,000 scfm to 15,000 scfm of Air with a 39°F Pressure Dew Point at 100 psig
- 25 h.p. to 60 h.p. Motor, Carlyle Semi Hermetic Compressor
- High Efficiency Motor and Starter
- Fused Disconnect Switch Standard
- NEMA 12 Electrical Enclosure
- Full Instrumentation to Monitor Performance
- Power Factor Correction Equipment Available
- Full Safety Controls with Everload Protection for Compressor and Motor
- Unsafe Condition Shutdowns
- Energy Savings Up to 56% Available with Optional Cylinder Unloaders

## High Temperature 3-in-1 Air Dryers

- Flow Capacity Range 21- 400 SCFM
- 3-in-1 Design Eliminates the Need for an Aftercooler, Separator and Drain Trap Before the Air Dryer
- Pressure Dew Point as Low as 35°F
- Handles Inlet Air Temperature Up to 180°F
- All Copper Spiral Fin Tube-In-Tube Heat Exchanger Provides Maximum Efficiency for Heat Transfer and Moisture Separation
- Includes Monitoring Instrumentation, Separator and DrainTrap
- 6 ft. Electrical Cord with Grounded Plug on Models 3528 - 3531 with 115 volts
- Refrigeration Systems Utilize Environmentally Safe R-134A Refrigerant or R-22 Refrigerant
- Refrigerant Suction Pressure Gauge
- One Year Warranty
- Five Year Heat Exchanger Warranty

**Note: 3528 – 3531 Max. Operating Pressure Rated@ 250 psi**

Arrow Pneumatics refrigerant air dryers are energy efficient, with air-to-air and refrigerant-to-air heat exchangers to reduce energy consumption. Our "C" series cycling dryers are now available on 500 CFM and above units by using semi-hermetic compressors and head unloaders.


## *"C" SERIES CYCLING DRYER*
### Arrow Model Numbers 3514C through 3560C

- Significant Energy Savings
- Longer Compressor Life Because of Reduced Cycling Wear
- Semi-hermetic Compressors have a Three Times Longer Life than Hermetic Compressors
- More BTU's/HR Capacity per KW with Semi-Hermetic Compressor
- No Dew Point Spikes which are Typical with Other Types of Cycling Dryers
- Superior Heat Exchanger Design with Spiral Fin Tube Construction

## Semi-Hermetic Compressor Performance
## R-22 Refrigerant

| Model | Flow Capacity SCFM | # of Cylinders | HP | In/Outlet Connections | Step Unloaders | Full Load KW | 1st Step Unloader KW | Energy Savings | 2nd Step Unloader KW | Energy Savings |
|---|---|---|---|---|---|---|---|---|---|---|
| 3514-*C | 500 | 4 | 3 | 3" NPT | 1 Step | 4.07 | 2.32 | 43% | N/A | |
| 3514W-*C | 500 | 4 | 3 | 3" NPT | 1 Step | 3.20 | 1.82 | 43% | N/A | |
| 3515-*C | 625 | 4 | 3 | 3" NPT | 1 Step | 4.07 | 2.32 | 43% | N/A | |
| 3515W-*C | 625 | 4 | 3 | 3" NPT | 1 Step | 3.20 | 1.82 | 43% | N/A | |
| 3516-*C | 750 | 4 | 5 | 3" NPT | 1 Step | 5.04 | 2.87 | 43% | N/A | |
| 3516W-*C | 750 | 4 | 5 | 3" NPT | 1 Step | 4.17 | 2.38 | 43% | N/A | |
| 3517-*C | 1000 | 4 | 5 | 4" FLG | 1 Step | 6.51 | 3.71 | 43% | N/A | |
| 3517W-*C | 1000 | 4 | 5 | 4" FLG | 1 Step | 5.25 | 2.99 | 43% | N/A | |
| 3518-*C | 1200 | 4 | 5 | 4" FLG | 1 Step | 7.13 | 4.06 | 43% | N/A | |
| 3518W-*C | 1200 | 4 | 5 | 4" FLG | 1 Step | 5.87 | 3.35 | 43% | N/A | |
| 3519-*C | 1600 | 6 | 6.5 | 6" FLG | 2 Step | 9.37 | 6.75 | 28% | 4.12 | 56% |
| 3519W-*C | 1600 | 6 | 6.5 | 6" FLG | 2 Step | 8.11 | 5.84 | 28% | 3.57 | 56% |
| 3521-*C | 2000 | 6 | 10 | 6" FLG | 2 Step | 14.56 | 10.48 | 28% | 6.41 | 56% |
| 3521W-*C | 2000 | 6 | 10 | 6" FLG | 2 Step | 13.30 | 9.58 | 28% | 5.85 | 56% |
| 3548W-*C | 2300 | 6 | 10 | 6" FLG | 2 Step | 13.30 | 9.58 | 28% | 5.85 | 56% |
| 3522-*C | 2500 | 6 | 10 | 6" FLG | 2 Step | 14.81 | 10.48 | 28% | 6.41 | 56% |
| 3523-*C | 3000 | 4 | 15 | 6" FLG | 1 Step | 18.06 | 10.29 | 43% | N/A | 0% |
| 3549W-*C | 3000 | 6 | 10 | 6" FLG | 2 Step | 13.30 | 9.58 | 28% | 5.85 | 56% |
| 3524-*C | 3750 | 4 | 15 | 6" FLG | 1 Step | 19.57 | 11.10 | 43% | N/A | 0% |
| 3550-*C | 4000 | 6 | 25 | 6" FLG | 2 Step | 18.90 | 14.45 | 28% | 10.00 | 56% |
| 3550W-*C | 4000 | 4 | 15 | 6" FLG | 1 Step | 16.55 | 9.43 | 43% | N/A | 0% |
| 3560-*C | 5000 | 6 | 25 | 8" FLG | 2 Step | 27.02 | 20.93 | 28% | 14.55 | 56% |
| 3560W-*C | 5000 | 4 | 20 | 8" FLG | 1 Step | 16.55 | 9.43 | 43% | N/A | 0% |

All capacities above are based on design conditions of 100°F inlet, 100 PSIG and 100°F ambient.

*** Voltage Codes**
-3 - 208/3/60 or 200-240/3/50
-4 - 460/3/60 or 380/3/50
-5 - 575/3/60

| Model | Flow Capacity at Listed Dew Point SCFM | | Air Line Conn. In & Out | Drain Connect. | Refrig. Comp. H.P. Rating | Maximum Heat Rejection BTU/Hr. | | Cool Air Flow CFM | Max. Water Flow GPM 85°F In, 95°F Out | Volt. Code | Std. Instrum. Panel | Optional Instrum. | Cond. Type | Dimensions (inches) | | | Wt. Lbs. | KW Input[5] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 35°F | 50°F | | | | Air Cooled | Water Cooled | | | | | | | Height | Width | Length | | |
| F-05/10 | 10 | 12 | 3/8" OD | 3/8" OD | 1/6 | 1,050 | ---------- | 125 | ---------- | 1, 2 | A | 16 | Air | 13.5 | 13 | 15 | 50 | .20 |
| F-10/20 | 20 | 25 | 1/2" FPT | 3/8" OD | 1/6 | 1,560 | ---------- | 125 | ---------- | 1, 2 | B | 16 | Air | 13.5 | 13 | 18 | 58 | .26 |
| F-30/40 | 40 | 50 | 1/2" FPT | 3/8" OD | 1/4 | 2,420 | ---------- | 125 | ---------- | 1, 2 | B | 16 | Air | 16 | 14 | 22 | 78 | .40 |
| F-50 | 50 | 62 | 1" FPT | 3/8" OD | 1/4 | 3,316 | ---------- | 185 | ---------- | 1, 2 | B | 16 | Air | 16 | 14 | 22 | 83 | .48 |
| F-70/100 | 100 | 124 | 1" FPT | 3/8" OD | 1/2 | 6,000 | ---------- | 350 | ---------- | 1,2 | B | 16 | Air | 27.5 | 20 | 30 | 163 | .51 |
| F-125 | 125 | 156 | 1" FPT | 3/8" OD | 3/4 | 9,325 | 8,770 | 800 | 1.5 | 1, 2 | B | 16 | Air or Water | 27.5 | 20 | 30 | 190 | 1.28 |
| F-150 | 150 | 175 | 1 1/2" FPT | 1/2" FPT | 1 | 9,325 | 8,900 | 800 | 1.7 | 1, 2, 4 | D | 16 | Air or Water | 27.5 | 20 | 30 | 190 | 1.34 |
| A-200 | 200 | 240 | 2" MPT | 1/2" FPT | 1 | 9,500 | 8,900 | 800 | 1.7 | 1, 2, 4 | D | 4, 5,12, 13, 16 | Air or Water | 42 | 29 | 38 | 435 | 1.34 |
| A-250 | 250 | 290 | 2" MPT | 1/2" FPT | 1-3/4 | 19,170 | 17,600 | 1125 | 2.7 | 2, 3, 4 | E | 4, 5, 12, 13, 16 | Air or Water | 42 | 29 | 38 | 477 | 2.37 |
| A-300 | 300 | 350 | 2" MPT | 1/2" FPT | 1-3/4 | 19,170 | 17,600 | 1125 | 3.5 | 2, 3, 4 | E | 4,5, 12, 13, 16 | Air or Water | 42 | 29 | 38 | 505 | 2.37 |
| 3512 | 340 | 420 | 3" NPT | 1/2" NPT | 1-3/4 | 22,930 | 21,915 | 2000 | 4.4 | 2, 3, 4 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 44.5 | 38 | 42 | 716 | 2.01 |
| 3513 | 400 | 489 | 3" NPT | 1/2" NPT | 2 | 30,470 | 28,940 | 2000 | 5.8 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 44.5 | 38 | 42 | 718 | 2.75 |
| 3514 | 500 | 600 | 3" NPT | 1/2" NPT | 3 | 43,625 | 41,720 | 2100 | 8.3 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 44.5 | 38 | 42 | 807 | 3.75 |
| 3515 | 625 | 750 | 3" NPT | 3/4" NPT | 3 | 43,625 | 41,720 | 2100 | 8.3 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 59 | 38 | 50 | 1136 | 3.75 |
| 3516 | 750 | 900 | 3" NPT | 3/4" NPT | 4 | 57,170 | 54,925 | 4200 | 11 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 59 | 38 | 50 | 1147 | 4.38 |
| 3517 | 1000 | 1250 | 4" FLG | 3/4" NPT | 5-1/2[2] | 73,600 | 70,030 | 5000 | 14 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 72 | 38 | 50 | 1500 | 7.15 |
| 3518 | 1200 | 1500 | 4" FLG | 3/4" NPT | 5-1/2[2] | 80,500 | 77,280 | 5000 | 14.6 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 72 | 38 | 50 | 1570 | 7.15 |
| 3519 | 1600 | 1920 | 6" FLG | 3/4" NPT | 7-1/2[2] | 114,510 | 109,345 | 5600 | 21.9 | 3, 4, 5 | F | 1-7, 9, 12, 13, 15-17 | Air or Water | 87 | 38 | 50 | 2117 | 8.90 |
| 3521 | 2000 | 2400 | 6" FLG | 3/4" NPT | 10[2] | 159,937 | 139,407 | 5600 | 27.5 | 3, 4, 5 | G | 1-7, 9-15 | Air or Water | 91 | 56 | 72 | 3024 | 11.40 |
| 3548W | 2300 | 2750 | 6" FLG | 3/4" NPT | 12[2] | ---------- | 158,604 | ---------- | 30.2 | 3, 4, 5 | G | 1-7, 10-14, 19 | Water | 98 | 57 | 80 | 3400 | 8.70 |
| 3522 | 2500 | 3000 | 6" FLG | 3/4" NPT | 12[2] | 194,263 | 169,008 | 11600 | ---------- | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Air | 98 | 57 | 98 | 4076 | 14.56 |
| 3523 | 3000 | 3600 | 6" FLG | 3/4" NPT | 15[2] | 207,640 | ---------- | 11600 | ---------- | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Air | 98 | 57 | 98 | 4538 | 18.06 |
| 3549W | 3000 | 3600 | 6" FLG | 3/4" NPT | 10[2] | ---------- | 191,600 | ---------- | 38.3 | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Water | 98 | 57 | 98 | 3698 | 13.30 |
| 3524 | 3750 | 4500 | 6" FLG | 3/4" NPT | 15[2] | 266,120 | ---------- | 11600 | ---------- | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Air | 98 | 57 | 98 | 5000 | 19.57 |
| 3550W | 4000 | 5000 | 6" FLG | 3/4" NPT | 15[2] | ---------- | 255,240 | ---------- | 51 | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Water | 106 | 57 | 80 | 5000 | 16.55 |
| 3560W | 5000 | 5750 | 8" FLG | 3/4" NPT | 20[2] | ---------- | 281,250 | ---------- | 63 | 3, 4, 5 | H | 2-7, 10, 11, 13, 14,19 | Water | 109 | 57 | 80 | 5000 | 16.55 |
| 4041W | 5000 | 5750 | 8" FLG | 3/4" NPT | 25[2] | ---------- | 313,000 | ---------- | 68 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 79 | 56 | 140 | 5000 | 24.70 |
| 4042W | 6250 | 7200 | 8" FLG | 3/4" NPT | 25[2] | ---------- | 373,000 | ---------- | 75 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 82 | 56 | 141 | 6500 | 26.30 |
| 4043W | 7500 | 8625 | 8" FLG | 3/4" NPT | 35[2] | ---------- | 468,000 | ---------- | 94 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 88 | 60 | 140 | 7700 | 37.00 |
| 4044W | 10000 | 11500 | 10" FLG | 3/4" NPT | 40[3] | ---------- | 565,000 | ---------- | 113 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 103 | 65 | 150 | 10000 | 32.00 |
| 4045W | 12500 | 14375 | 12" FLG | 3/4" NPT | 50[3] | ---------- | 713,000 | ---------- | 143 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 108 | 72 | 150 | 13000 | 42.00 |
| 4046W | 15000 | 17250 | 12" FLG | 3/4" NPT | 60[3] | ---------- | 878,000 | ---------- | 176 | 3, 4, 5 | J | 2-5, 7,10,11, 13, 14, 19 | Water | 120 | 75 | 160 | 15500 | 57.00 |

## High Temperature 3-in-1 Dryers

| Model | Flow Capacity[1] CFM at 160°F Saturated | | Air Line Connect. In & Out | Drain Connect. | Refrig. Comp. H.P. Rating | Maximum Heat Rejection BTU/Hr. Air Cooled | Cool Air Flow CFM | Volt. Code | Std. Instrum. Panel | Optional Instrum. | Condense. Type[4] | Dimensions (inches) | | | Wt. Lbs. | KW Input[5] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 100 PSIG | 140 PSIG | | | | | | | | | | Height | Width | Length | | |
| 3528 | 21 | 21.9 | 1" NPT | 3/8" OD | 1/4 | 3900 | 185 | 1, 2 | B | 16 | Air | 27.5 | 20 | 30 | 141 | .40 |
| 3529 | 30 | 36.8 | 1" NPT | 3/8" OD | 1/2 | 6500 | 350 | 1, 2 | B | 16 | Air | 27.5 | 20 | 30 | 158 | .51 |
| 3530 | 50 | 56 | 1" NPT | 3/8" OD | 3/4 | 9900 | 800 | 1, 2 | B | 16 | Air | 27.5 | 20 | 30 | 200 | 1.28 |
| 3531 | 70 | 81 | 1" NPT | 3/8" OD | 1 | 16140 | 1125 | 1, 2, 4 | C | 1, 16 | Air | 31.5 | 27.5 | 34 | 288 | 1.73 |
| 3532 | 105 | 130 | 2" NPT | 1/2" NPT | 1-3/4 | 25500 | 1125 | 2, 3, 4 | C | 1, 16 | Air | 42 | 29.5 | 40 | 508 | 2.01 |
| 3533 | 135 | 187 | 3" NPT | 1/2" NPT | 2 | 32900 | 2000 | 3, 4 | K | 1, 16 | Air | 49.5 | 38.5 | 44 | 698 | 2.75 |
| 3534 | 220 | 280 | 3" NPT | 1/2" NPT | 3 | 54000 | 2100 | 3, 4 | K | 1-5,7,8,10-14,16 | Air | 49.5 | 38.5 | 44 | 768 | 4.38 |
| 3535 | 300 | 365 | 3" NPT | 3/4" NPT | 4 | 65600 | 4200 | 3, 4 | K | 1-5, 7,8,10-14,16 | Air | 63.5 | 38.5 | 52 | 1113 | 5.75 |
| 3536 | 400 | 480 | 3" NPT | 3/4" NPT | 5-1/2 | 88000 | 5000 | 3, 4 | K | 1-5,7,8,10-14,16 | Air or Water | 63.5 | 38.5 | 52 | 1190 | 7.15 |

**NOTES:**

1. All capacities above are based on design conditions of 100°F inlet, 100 psig, and 100°F ambient - except 3-in-1 dryers, which are based on 160°F inlet and 100°F ambient temperature.
2. Semi-hermetic compressor available on all "C" Series Cycling Dryers (Models 3514 thru 3522). Refer to X1022.
3. Single or Dual compressor offered or open drive.
4. Water regulating valve furnished with all water cooled units.
5. KW figures for water cooled models are 15% less than figures shown. Figures include total electric draw under maximum load, including fan motors, indicators, etc.

- Dryers rating 250 psi max. working pressure; std. drain trap rated for 250 psi max. up to A-300, 200 psi and larger sizes.
- On models F-70/100 and larger, an electronic drain (model 5702S) may be substituted for the std. float type drain for an additional charge. This must be noted on your P.O.

**VOLTAGE CODE**

| Standard | Export |
|---|---|
| 1 - 115/1/60 | 100/1/50 |
| 2 - 208-230/1/60 | 200-240/1/50 |
| 3 - 208-230/3/60 | 200-240/3/50 |
| 4 - 460/3/60 | 380/3/50 |
| 5 - 575/3/60 | |

## STANDARD INSTRUMENT PANEL

| | A | B | C | D | E | F | G | H | I | J | K |
|---|---|---|---|---|---|---|---|---|---|---|---|
| On/Off Switch | | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| Power On Light | √ | √ | √ | √ | √ | | | √ | √ | √ | |
| Compressor On Light | | | | | | √ | √ | √ | √ | √ | √ |
| Air Inlet Temp. Gauge | | | √ | √ | | | √ | √ | √ | √ | √ |
| Air Inlet Pressure Gauge | | | | √ | √ | √ | √ | √ | √ | √ | √ |
| Air Outlet Pressure Gauge | | | √ | | | | √ | √ | √ | √ | √ |
| High Temperature Light | √ | | | | | | | | | | |
| Air Dew Point Temp. Gauge | | | | | | | | | √ | √ | |
| Digital Temp. Display* | | | | | √ | √ | | | | | |
| Differential Pressure Gauge | | | | | √ | √ | | | | | |
| Refrigerant Suction Pressure Gauge | | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| Refrigerant Discharge Pressure Gauge | | | | | | √ | √ | √ | √ | √ | |
| Refrigerant Temp. Gauge | | | | | | | √ | √ | √ | √ | √ |
| Hi/Low Refrigerant Pressure Light | | | | | | | | √ | √ | √ | |
| Low Oil Pressure Light | | | | | | | | | √ | √ | |
| Cooling Water Temp. Gauges (In & Out) | | | | | | | | | √ | √ | |
| Evaporator Pressure Gauge | | | | | | | | | | √ | |
| NEMA 12 Enclosure | | | | | | | | √ | √ | √ | |

* Digital panel displays ambient air temp., compressor suction temp., compressor discharge temp., and inlet air temp.

**Notes:** 1) Second gauge on models 4042W and 4043W is an evaporator pressure gauge when an evaporator pressure valve is used.
2) Electric Power Cords - 6 ft. electrical cord with grounded plug is standard on all F-10/20 thru F-70/100 115V units.

## Air Flow Ratings of ARROW Dryers

Air dryer rated flows are based upon design conditions of 100°F inlet, 100 psig, 100°F ambient. If these conditions vary, the rated flows will vary in accordance with the following general rules and tables.

1) As ***Inlet Air Temperature*** increases, ***Flow Capacity*** will decrease:

| **Inlet Air Temperature** | 90°F | 95°F | 100°F | 110°F | 120°F |
|---|---|---|---|---|---|
| **Flow Capacity Multiplier:** | 1.23 | 1.13 | 1.00 | 0.83 | 0.69 |

2) As ***Air Line Pressure*** increases, ***Flow Capacity*** will increase:

| **Air Line Pressure:** | 60 psig | 80psig | 100 psig | 120 psig | 150 psig |
|---|---|---|---|---|---|
| **Flow Capacity Multiplier:** | .88 | .95 | 1.00 | 1.04 | 1.08 |

3) As ***Ambient Air Temperature*** increases, ***Flow Capacity*** will decrease:

| **Ambient Air Temperature** | 80°F | 90°F | 100°F | 110°F |
|---|---|---|---|---|
| **Flow Capacity Multiplier:** | 1.14 | 1.07 | 1.00 | .92 |

4) As the ***Dew Point*** increases, ***Flow Capacity*** will increase:
If design conditions (100°F, 100 psig, 100°F ambient) remain the same, but a higher dew point is acceptable, the Flow Capacity will increase approximately in accordance with the following multipliers:

| **Dew Point** | **39°F** | **45°F** | **50°F** |
|---|---|---|---|
| **Flow Capacity Multiplier:** | 1.05 | 1.15 | 1.20 |

*These figures are simply general rules, multipliers, and formulas to help you select a dryer; however, they do not apply to 3-in-1 dryers.*

## OPTIONAL INSTRUMENTATION AND FEATURES

1) Power On Light
2) High Inlet Air Temperature Light
3) High Refrigerant Discharge Pressure Light
4) Low Ambient Fan Cut-Out Switch
5) Dead System Shutdown Light
6) Condensate Drain Alarm
7) Air Outlet Temperature Gauge
8) Refrigerant Discharge Pressure Gauge
9) Cooling Water Temperature In/Out
10) Air Dew Point Temperature
11) Air Flow Gauge
12) NEMA 12 or NEMA 13 Enclosures
13) Waterproof Enclosure with NEMA 4 Wiring
14) Fused Disconnect Switch
15) High Pressure Package
16) Electric Drain
17) Air Outlet Pressure
18) Refrigerant Temperature
19) Capacity Pressure Unloaders

## MOISTURE REMOVAL DATA

| TEMP. AT RECEIVER TANK | SYSTEM TEMP. | LBS. CONDENSED PER 100 CFM | LBS.PER 8 HR. SHIFT | GALLONS PER 8 HR. SHIFT |
|---|---|---|---|---|
| 120 | 70 | .05613 | 26.94 | 3.23 |
| 100 | 70 | .02455 | 11.78 | 1.41 |
| 90 | 70 | .01399 | 6.718 | .81 |
| 80 | 70 | .005965 | 2.863 | .34 |
| 120 | 50 | .06386 | 30.65 | 3.67 |
| 100 | 50 | .03227 | 15.49 | 1.86 |
| 90 | 50 | .02172 | 10.43 | 1.25 |
| 80 | 50 | .01369 | 6.571 | .79 |
| 120 | 35 | .06714 | 32.23 | 3.86 |
| 100 | 35 | .03556 | 17.07 | 2.05 |
| 90 | 35 | .02501 | 12.00 | 1.44 |
| 80 | 35 | .01698 | 8.149 | .98 |

NOTE: 8.3453 LBS. PER GALLON

# INSTRUMENTATION


**3 Gauge Instrument Panel Includes:*** Refrigerant Suction Pressure Gauge, Air Inlet Pressure Gauge, Air Inlet Temperature Gauge and Power Indicator Light.
***Standard on models F-150 & A-200**

**Optional Instrumentation**: Low Ambient Cut Out and Dead System Shutdown Light. (A-200 Only)

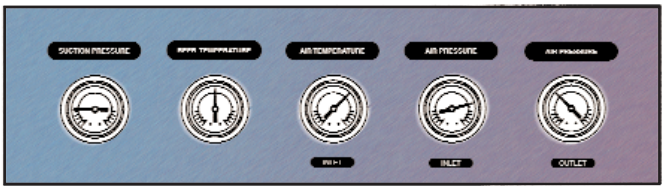

**3 Gauge Instrument Panel with Digital Display Includes:***
Refrigerant Suction Pressure Gauge, Inlet Air Pressure Gauge, Efficiency Pressure Gauge and Power On/Off Switch. Digital Temperature Display Provides: Ambient, Compressor Suction, Compressor Discharge and Inlet Air Temperatures
***Standard on models A250 & A-300**

**Optional Instrumentation**: Low Ambient Cut Out and Dead System Shutdown Light


**4 Gauge Instrument Panel with Digital Display Includes:***
Refrigerant Discharge Pressure Gauge,
Refrigerant Suction Pressure Gauge, Inlet Air Pressure Gauge, Efficiency Pressure Gauge and Power On/Off Switch. Digital Temperature Display Provides: Ambient, Compressor Suction, Compressor Discharge and Inlet Air Temperatures
***Standard on models 3512 through 3519**

**Optional Temperature Readouts Include:** Air Outlet Temperature, Refrigerant Temperature and Cooling Water In/Out

**Optional Gauges Include:** Air Outlet Pressure Gauge




**Instrumentation Panel for High Capacity Dryers Includes***: Refrigerant Suction Pressure Gauge, Air Inlet Pressure Gauge, Air Outlet Pressure Gauge, Air Inlet Temperature Gauge, Refrigerant Temperature, and Refrigerant Discharge Pressure Gauge.
***Standard on models 3548W through 4046W**

**Optional Instrumentation**: Air Outlet Temperature, Air Dew Point Temperature, Air Flow Gauge, Cooling Water Temperature In/Out, High Inlet Air Temperature Light, High Discharge Pressure Light, Low Oil Pressure Light, Low Ambient Cut Out, Dead System Shutdown Light and Condensate Drain Alarm

# WARRANTY

**Arrow refrigerated type compressed air dryers are warranted to be free from defects in material and workmanship, when used under conditions recommended by the manufacturer, for a period of twelve (12) months from the date of start-up not to exceed eighteen (18) months from date shipped from factory. Products purchased from warehouse stock are warranted for a period of twelve (12) months from date of shipment from that warehouse provided Arrow is furnished full name, address and date of shipment information.**

**The patented modular heat exchanger used on models A-200 through 3560 is warranted for five (5) years. This warranty is limited to the replacement of the heat exchanger, F.O.B. factory, and is subject to the same restrictions as outlined below concerning misuse, abuse or accident.**

**This warranty applies to equipment installed, operated and maintained in accordance with the procedures and recommendations as outlined in the owner's manual published by Arrow Pneumatics.**

**The electric drain trap is warranted to be free from mechanical defects for a period of ninety (90) days.**

**Air cooled aftercoolers, watercooled aftercoolers and moisture separators are warranted to be free from defects in material and workmanship, when used under conditions recommended by the manufacturer, for a period of twelve (12) months from the date of shipment from the factory or regional warehouse.**

**During the period of this warranty, Arrow Pneumatics will repair or replace (at Arrow's option), free of charge, F.O.B. its plant, any defective part or assembly, if such defect occurred in normal service and was not due to apparent misuse, abuse or accident.**

**Before any warranty service work is started, it must first be authorized by Arrow Pneumatics. Please contact our Warranty Department at (847) 540-2133. Unauthorized service voids the warranty and any resulting charges will not be reimbursed by Arrow Pneumatics.**

**The foregoing warranty is exclusive and in lieu of all other warranties, written, oral or implied, and the company makes no warranty of merchantibility or fitness for any particular purpose or use. In no event shall the company be liable for special, incidental or consequential damages or losses arising out of or caused by products which may prove to be defective, including, but not limited to loss of revenues and loss of profits.**

# ARROW PNEUMATICS

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