

Application(1) Freeze-dryer



VACUUM FREEZE DRYERS

■ Industries:

Pharmaceuticals, Foods

■ Application:

Circulation of refrigerant

■ Fluid:

Silicon Oil (-20°C ~ +20°C)

■ Reason for adoption:

M2515, M4022

- **integrity** of pump wet-materials
- **heat-input-less**
- For device design with norm of **less maintenance.**

Application(2) Fuel-cell Tester



PEFC FUEL-CELL TESTERS

■ Industries:

Automobiles

■ Application:

**Humidifier,
Temperature controller**

■ Fluid:

**Pure Water (80°C)
Long-life coolant (90°C)**

■ Reason for adoption:

M1500, M2515

- **Less spacing**
- **High temperature operation**
- **No-leak prerequisites**

• PEFC = Polymer Electrolyte Fuel cell

Application (3) Nickel Plating



ELECTROLESS NICKEL PLATING

■ Industries:

**Automobiles, Semi-conductors,
Electric Appliances**

■ Application:

**Circulation of
Cleanser and Alkaline**

■ Fluid:

**Hypophosphate (80°C)
NaOH (60°C)**

■ Reason for adoption:

M2504, M2515

- **Non-Leak** Prerequisites
- **Durable** pump
- **Simple design** pump
- **Less maintenance** works

Application (4) Seasoning Line

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SEASONING LINES

■ Industries:

Foods

■ Application:

**Transferring of
Corrosive/coagulative fluid
Seasoning (40°C)**

■ Fluid:

Hot-water, Detergent (90°C)

■ Reason for adoption:

M2504, M2515L

- **Good for CIP cleaning system**
- **Handling of no-air-touchable fluid**
- **High temperature operation**
- **Non-leak prerequisites**

CIP = Cleaning in phase



Application (5) Calorie Tester

CALORIE TESTER of air-compressors

■ Industries:

**Automobiles,
Air-conditioners**

■ Application:

Circulation of refrigerant

■ Fluid:

Long-life coolant (-20°C~100°C)

■ Reason for adoption:

M2504, M2515L

- **Non-leak** prerequisites
- Applicable to **wide temperature variations**
- **heat-cycles** Durability at

Application (6) Photomask



PHOTOMASK POLISHERS

■ Industries:

**Semi-conductors, Flat Displays,
Printed circuits**

■ Application:

**Transferring/circulation of
Surface-treatment agent**

■ Fluid:

**Grass-in Abrasing Fluid (40°C)
Diamond-in wasted fluid (40°C)**

■ Reason for adoption:

M2004, M4022

- **Non-leak** prerequisites
- **Slurry resistant** pump
- **Simple structure**
- **Durable** pump