



# Proposal for the Use of a **Separate** Refrigerated Air Dryer

Installing an air dryer separate from the compressor allows for increased energy savings!

Air flow capacity [m<sup>3</sup>/min (ANR)]  
**0.1 to 54 (50 Hz)**  
**0.12 to 65 (60 Hz)**

Air flow capacity [m<sup>3</sup>/min (ANR)]  
**5.3 to 13.5 (50 Hz)**  
**6.1 to 15.5 (60 Hz)**



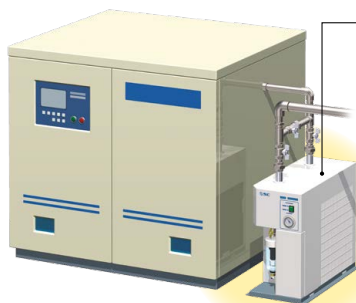
Web Catalog



Web Catalog

## Comparison with a compressor with a built-in air dryer

When using a separate dryer



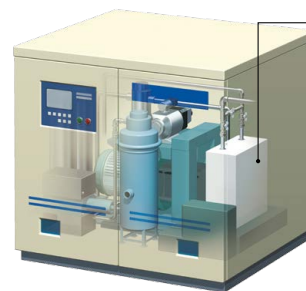
Dryer

Good ventilation **reduces** heat build-up

Low load

Energy saving

When using a built-in dryer



Dryer

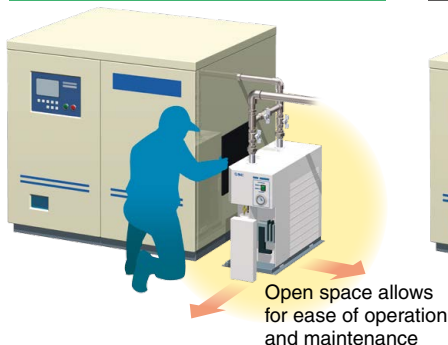
Enclosed space **results in** heat build-up

High load

Uses more energy

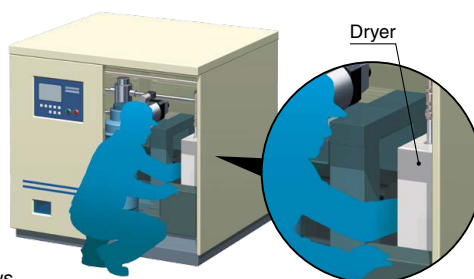
## Easy maintenance

When using a separate dryer



Open space allows for ease of operation and maintenance

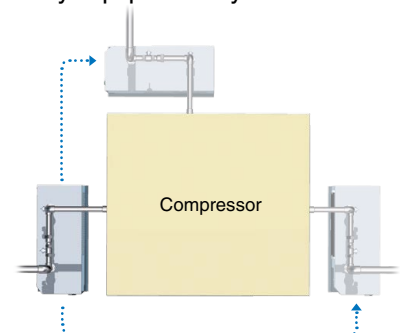
When using a built-in dryer



Narrow space makes operation and maintenance difficult

## Easy to change layout

Allows for sudden changes in the factory equipment layout



# IDF/IDU Series

# For customers who are lowering the pressure in their pneumatic lines (energy saving),

we recommend installing a separate air dryer to reduce the operating load of the dryer!

When lowering the compressor discharge pressure

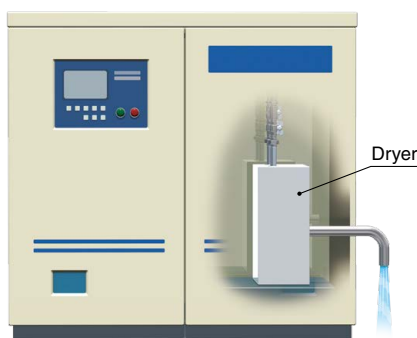
0.7 MPa → 0.6 MPa

Theoretical shaft power  
**7.4%<sup>\*1</sup> reduction**

However,

\*1 SMC research

the amount of moisture in the compressed air increases.



The load on the built-in dryer will increase, and the moisture that cannot be processed may flow to the outlet side.

For example:

The amount of drainage generated (per min) when the dryer inlet air pressure changes as shown below is as follows:

0.7 MPa 103 g/min

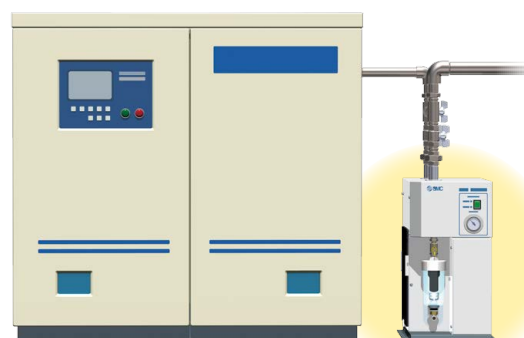
0.5 MPa 138 g/min

0.3 MPa 208 g/min

Approx. 34% increase

Reducing the pressure from 0.7 MPa to 0.5 MPa results in approx. 34% more drainage.

\* Air dryer inlet temperature: 40°C \* Dryer outlet pressure dew point: 10°C  
\* Air flow rate: 20 m<sup>3</sup>/min



Why not be fully prepared by installing a separate refrigerated air dryer (backup machine) to protect your important pneumatic equipment?



**⚠ Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

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