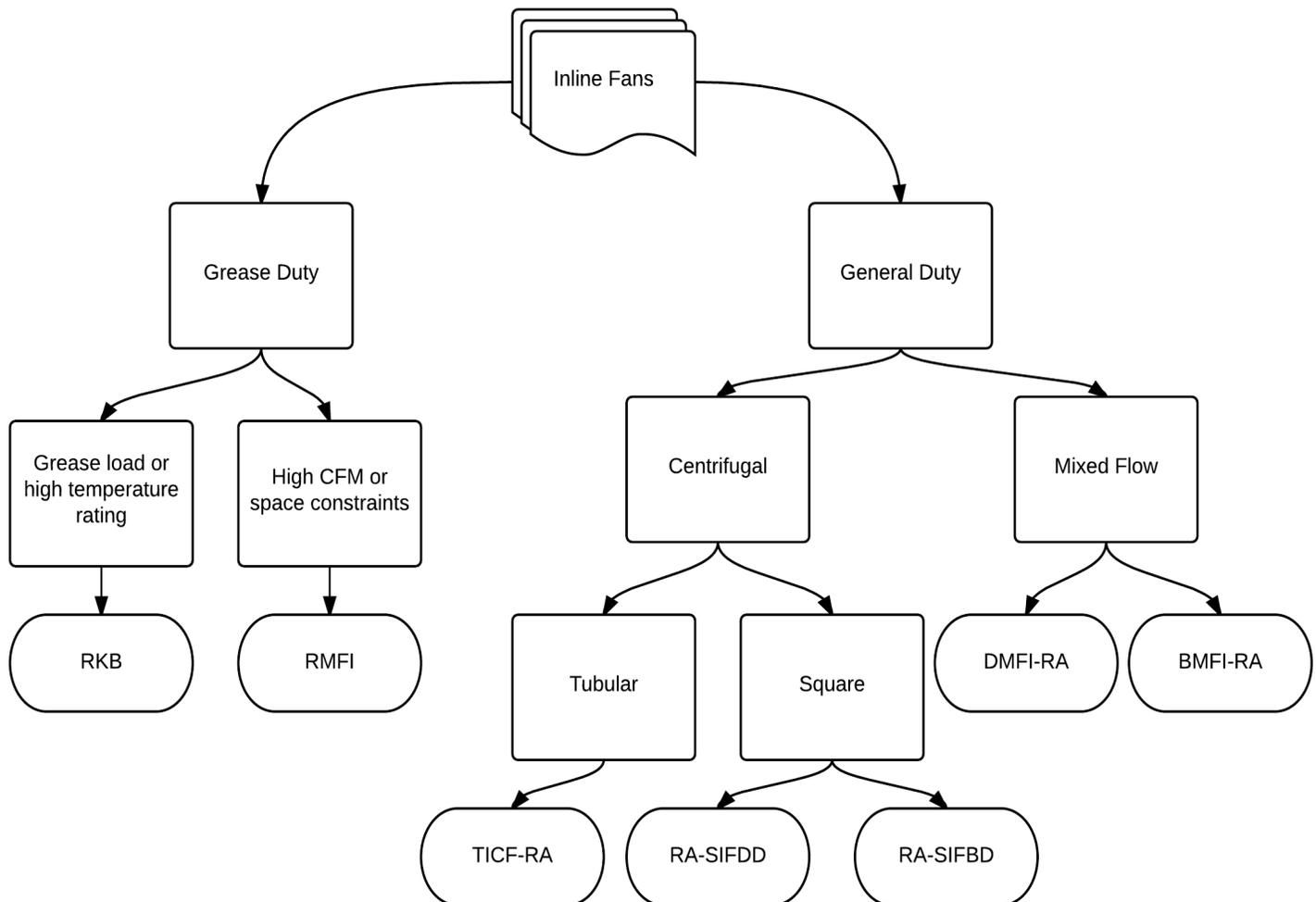


Inline Fan Application Intelligence

The inline family of fans shares the common characteristic of being mounted “inline”, or in series with installed ductwork. For this reason, inline fans are typically installed indoors and are capable of producing medium to high static pressures. There are many models available for inline fan applications so the question often arises as to which model is best suited for each application. The flow chart below illustrates the selection process as well as the relationships between the different inline fan models. More information about the selections can be found after the chart.



The first major distinction between the different types of inline fans is that of grease rating. Inline fans that are grease rated and therefore suitable for kitchen applications are certified to UL 762. Fans that are not grease rated are instead certified to the UL 705 general standard and should not be used in a grease environment.

UL 762 Listed (Grease Duty) Fans

Rupp Air Management offers two grease rated fan models, the RKB-Inline and the RMFI-RA. The RKB-Inline model uses a belt driven centrifugal wheel and offers easy accessibility through side panels. The RKB-Inline fan has a high heat option that uses high temperature conduit, wiring, and a steel wheel for prolonged operation during an emergency situation (4 hours at 572 degrees, 11 minutes at 1000 degrees). Engineering does not recommend using mixed flow RMFI-RA unit unless space constraints are driving design. For most applications the RKB-Inline is preferred.

UL 705 Listed (General Duty) Fans

The remainder of Rupp Air Management's fan offering falls within this category. Both mixed flow and centrifugal models are available.

➤ **Centrifugal Inline Fans**

Rupp offers four models of centrifugal inline fans. Centrifugal inline fans are further delineated into those that are square and those that are tubular (round).

❖ **Square Centrifugal Inline Fans**

Square inline fans can be joined to either round or square duct. These fans are well suited to general ventilation applications. These fans should not be used in heavy condensate or moist environments due to their square construction. Rupp offers three models of square centrifugal fans, CFA-RA, RA-SIFBD, and RA-SIFDD. The CFA-RA and RA-SIFBD fans are belt driven and suitable for general ceiling ventilation. The RA-SIFDD is direct drive and therefore first choice for most applications.

❖ **Tubular (Round) Centrifugal Inline Fans**

Tubular fans are ideal for applications with steam, high levels of moisture, condensation or dust; due to their lack of corners. Rupp offers the belt driven TICF-RA model for these applications. TEFC motors should be used in conjunction with these fans for enhanced corrosion resistance and unit life. TEFC motors are suitable for dishwasher applications.

➤ **Mixed Flow Fans**

Mixed flow fans are a hybrid style of fan combining the operating characteristics of centrifugal and axial fans. This style of fan offers straight through airflow, high efficiency, low noise levels, high static pressure, and a compact footprint. As such, mixed flow fans are a good choice for applications where any of these characteristics are desirable. Rupp offers two models of mixed flow fan: BMFI-RA (belt drive) and DMFI-RA (direct drive).

Additional Application Notes:

- Aluminum should be used in corrosive or caustic environments.
- Spark resistant construction (Rupp offers Classes B and C) should be used when the air stream is explosive or flammable.
- Steel construction is preferred for general-purpose applications as it less expensive.