

United Technologies Research Center

High MegaWatt Drives for HVAC

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Shashank Krishnamurthy
krishnss@utrc.utc.com

UNITED TECHNOLOGIES

UTC Building & Industrial Systems

Sikorsky



Otis



UTC Climate,
Controls & Security



UTC Propulsion & Aerospace Systems

Pratt & Whitney



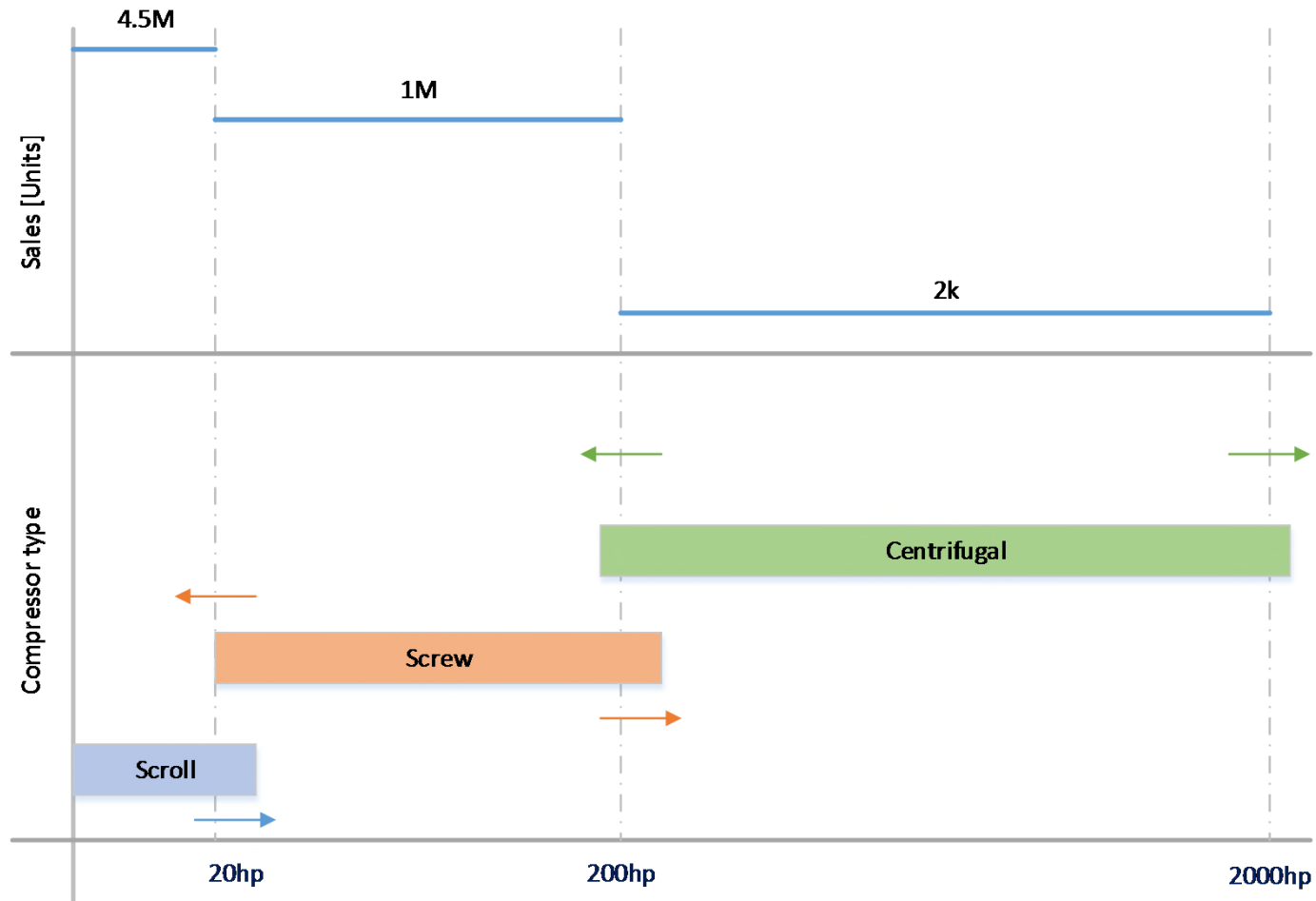
UTC Aerospace Systems



HVAC UNITS POWER RANGE

2012 units sold in US calculated from AHRI data

CHILLERS and HEAT PUMPS



HIGH POWER HVAC UNITS

Options for Low voltage or Medium voltage



1. Addition of line frequency transformer (size and weight)
2. Low voltage high current cabling
3. Leverage low voltage market



1. Medium voltage switchgear and protection
2. Passive front end would require 18-24P rectifier to meet harmonic limits
3. Medium voltage cables would be lower weight

WIDE BAND GAP DEVICES

Multiple opportunities for high frequency devices

