

# Air Dielectric Trimmer Capacitors



## description

**STANDARD** trimmer air capacitors are designed specifically for RF applications, VHF through microwave, and have become the industry standard of excellence. High Q and temperature stability are a result of proper attention to geometry and choice of optimum materials. The heart of this trimmer is the one piece self-locking constant torque drive mechanism\* illustrated to the right. This mechanism utilizes transverse slots to create a spring effect between two threaded sections resulting in substantial contact areas which insure uniform torque, high Q and low dynamic tuning noise.

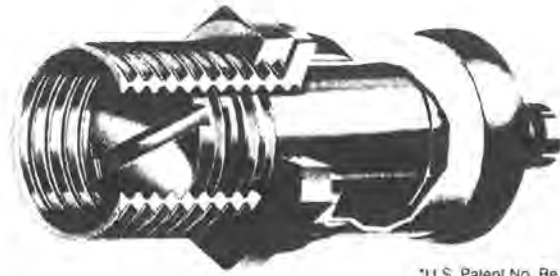
**MINIATURE** trimmer air capacitors offer an even further size reduction of the standard air capacitors coupled with finer tuning resolution and ultra high Q making them ideal for use in microwave circuits.

Both standard and miniature capacitors are available in vertical mounting configurations which save board space and allow top tuning. **VERTICAL MOUNT** capacitors are available in single, dual and low inductance leads with upright or inverted tuning.

Keeping pace with the growth of medical electronics, Johanson also produces **NON-MAGNETIC** air capacitors for low magnetic signature applications.

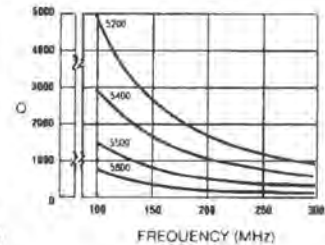
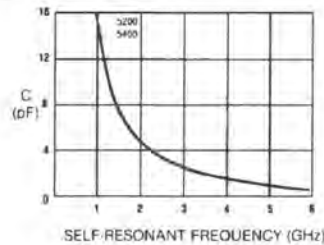
Where **HIGH VOLTAGE** is a requirement, the 5300 series air capacitors, not pictured in this catalog, are an excellent replacement for comparable range glass capacitors. Utilizing the basic design of the standard air capacitor, these units offer the same advantages plus a 500 VDC rating.

High Reliability versions are available on special order; to order add an "R" prefix letter to the standard Johanson part number.

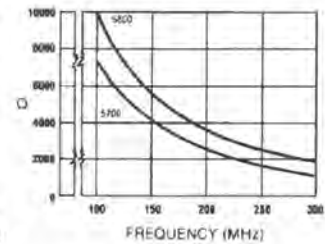
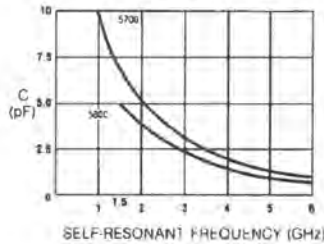


\*U.S. Patent No. Re. 30,406

### STANDARD AIR DATA



### MINIATURE AIR DATA



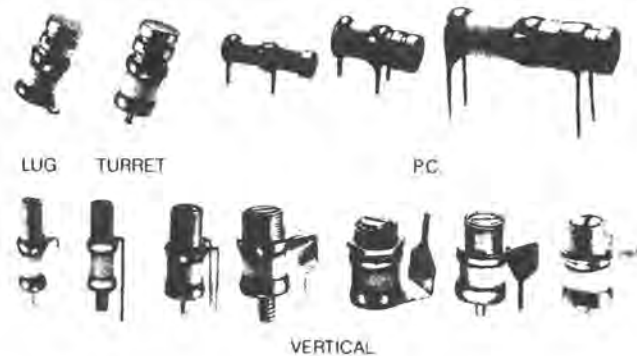
## applications

- RF Amplifiers and Oscillators
- Impedance matching
- Filter tuning
- Crystal trimming
- Interstage coupling

## characteristics

- Rated Voltage 250 VDC (5300 series 500 VDC)
- Torque 5200, 5400, 5500 & 5600 series 1 to 5 oz. in., 5700 series .4 to 4 oz. in., 5800 series .3 to 3 oz. in. & 5300 series 1 to 6 oz. in.
- Insulation Resistance  $>10^6$  Meg  $\Omega$  @ 500 VDC
- Contact Resistance  $<.01\Omega$
- Self-Resonant Frequency to  $>5$  GHz (5700 & 5800 series to  $>6$  GHz)
- Vibration 60 g, 10-2000 Hz
- Shock 1500 g, 0.5 milliseconds
- MIL-C-14409 qualified
- 574°F solder used in construction
- Operating temperature  $-65^\circ\text{C}$  to  $+125^\circ\text{C}$

## standard configurations



JMC Tuning Tool 8777



JMC Mounting Tool 4956 — for 5700 series  
4958 — for 5800 series

Johnson

5200 Type



.8 to 10pF

Johnson

5400 Type



1 to 14pF

STANDARD AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5200 PC25J100	8 to 10 >6 TURNS	0 ± 15	5000	
5201 *PC26T100	8 to 10 >6 TURNS	0 ± 15	5000	
5202 PC31J100	8 to 10 >6 TURNS	0 ± 15	5000	

VERTICAL MOUNT AIR CAPACITORS

JMC P/N	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5243 (NON-MAGNETIC)	1.5 to 10 >6 TURNS	50 ± 50	4000	
8052	1 to 10 >7 TURNS	0 ± 15	5000	
8090	1 to 10 >6 TURNS	0 ± 20	2000	

\*CONSULT FACTORY FOR DETAILS

JOHANSON MANUFACTURING CORPORATION, ROCKAWAY VALLEY ROAD, BOONTON, NEW JERSEY USA 07005 201-334-2676 FAX 201-334-2954 TWX 710-987-8367

STANDARD AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5400 PC25J140	1 to 14 >6 TURNS	0 ± 25	3000	
5401 *PC26T140	1 to 14 >6 TURNS	0 ± 25	3000	
5402 PC31J140	1 to 14 >6 TURNS	0 ± 25	3000	

VERTICAL MOUNT AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5453	1.5 to 16 >7 TURNS	0 ± 30	3000	
8053 *PC32T140	1.5 to 14 >6 TURNS	0 ± 25	3000	
8091	1.5 to 14 >6 TURNS	0 ± 20	2000	
8092	1.5 to 14 >6 TURNS	0 ± 20	2000	
8093	1.5 to 14 >6 TURNS	0 ± 20	2000	

\*CONSULT FACTORY FOR DETAILS



STANDARD AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5500 PC25J200	1 to 20 >12 TURNS	0 ± 30	1500	
5501 *PC26J200	1 to 20 >12 TURNS	0 ± 30	1500	
5502 PC31J200	1 to 20 >12 TURNS	0 ± 30	1500	

VERTICAL MOUNT

JMC P/N	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
8054	1.5 to 20 >12 TURNS	0 ± 30	1500	

\*CONSULT FACTORY FOR DETAILS



STANDARD AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5600	1 to 30 >20 TURNS	0 ± 30	800	
5601 *PC26J300	1 to 30 >20 TURNS	0 ± 30	800	
5602	1 to 30 >20 TURNS	0 ± 30	800	

VERTICAL MOUNT

JMC P/N	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
8098	1.5 to 30 >20 TURNS	0 ± 30	800	

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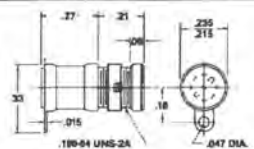
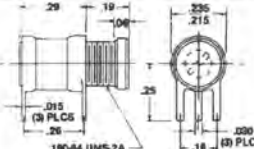
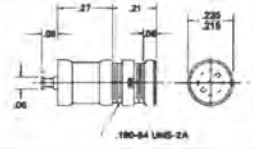
Johanson

5700 Type 

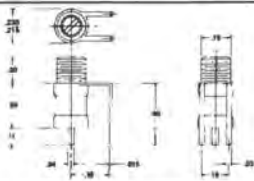
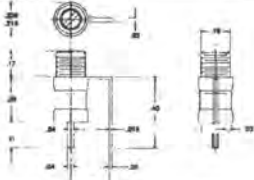
.6 to 6pF

Additional ranges shown

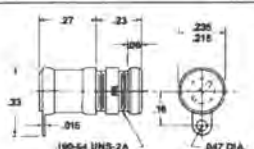
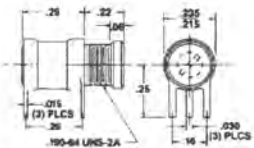
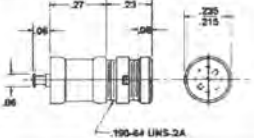
MINIATURE AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5700 PC25J060	6 to 6 >8 TURNS	0 ± 15	10000	
5701 *PC25J060	6 to 6 >8 TURNS	0 ± 15	10000	
5702 PC31J060	6 to 6 >8 TURNS	0 ± 15	10000	

VERTICAL MOUNT

JMC P/N	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5753	1 to 10 >8 TURNS	0 ± 50	7500	
8050	7 to 6 >8 TURNS	0 ± 15	10000	

EXTENDED RANGE

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5750	.8 to 10 >8 TURNS	0 ± 50	7500	
5751	8 to 10 >8 TURNS	0 ± 50	7500	
5752 PC25J100	.8 to 10 >8 TURNS	0 ± 50	7500	

\*CONSULT FACTORY FOR DETAILS

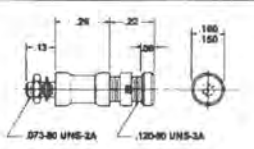
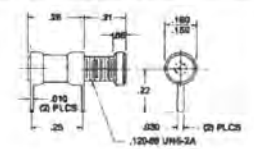
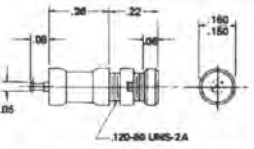
Johanson

5800 Type 

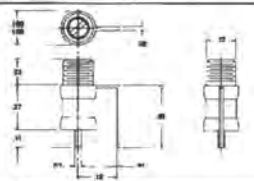
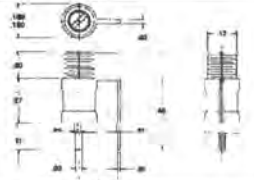
.35 to 3.5pF

Additional ranges shown

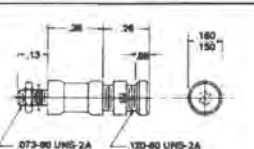
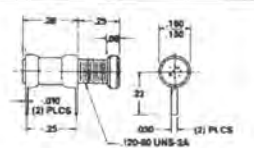
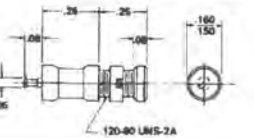
MINIATURE AIR CAPACITORS

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5800 PC27J3R5	35 to 3.5 >9 TURNS	0 ± 15	10000	
5801 PC28J3R5	35 to 3.5 >9 TURNS	0 ± 15	10000	
5802 PC29J3R5	35 to 3.5 >9 TURNS	0 ± 15	10000	

VERTICAL MOUNT

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5853 *PC30J3R5	6 to 5 >9 TURNS	0 ± 50	7500	
8051 *PC30J3R5	6 to 3.5 >9 TURNS	0 ± 15	10000	

EXTENDED RANGE

JMC P/N MIL SPEC	RANGE pF	TC PPM/°C	MIN. Q @ 100 MHz	DIMENSIONS (INCHES)
5850	5 to 5 >9 TURNS	0 ± 50	7500	
5851 PC28J050	5 to 5 >9 TURNS	0 ± 50	7500	
5852 PC29J050	5 to 5 >9 TURNS	0 ± 50	7500	

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