



### RAPID-DECOMPRESSION CHAMBER, ALTITUDE TRAINING, DEVICE 9A9

**TRAINING CATEGORY:**

PHYSIOLOGICAL TRAINING (Chambers and Aviation Medicine)

**ORIGINATING AGENCY:**

DCNO/AIR

**SECURITY CLASSIFICATION:**

Device 9A9 is unclassified.

**INTENDED USE:**

To provide advanced classroom training for flying personnel and for use as a laboratory for physiological study of the effects of rarified atmosphere to the human body.

To aid in the instruction of flight personnel in procedures to be followed should rapid-decompression occur in their aircraft at high altitudes and to familiarize them with the effects of rapid-decompression. Normal high altitude flight simulation and full pressure-suit training may also be carried out.

**FUNCTIONAL DESCRIPTION:**

Device 9A9 is a synthetic trainer in that it includes equipment, similar to that equipment found in aircraft, necessary to sustain personnel in a rarified atmosphere.

The device includes a main chamber, an intermediate lock, an observer lock, and controls which permit the instructors to subject the students to high altitude conditions and rapid-decompression.

Controls which allow the student to follow those procedures necessary to sustain himself in a full pressure-suit at various altitudes are also included.

The student is realistically introduced to high altitude flying and to the effects of rapid decompression, as would occur at high altitude. The student's ability to withstand rapid decompression, as well as normal high altitude flying, is tested. The 9A9 operator's controls permit the selection of various simulated cabin pressures and ambient pressures. The length of cabin decompression-recompression time may also be selected. Thus, flying at various altitudes and climbing to and descending from these altitudes can be simulated.

## DIRECTORY OF NAVAL TRAINING DEVICES

### INSTALLATION AREA:

Assembled, the decompression chamber occupies an area approximately 13' x 33'. Remotely located components of the 9A9 occupy additional floor space approximately as follows: instrument air compressor, 2' x 4'; ventilating air compressor, 4'-6" x 6'; air conditioning compressor-condenser unit, 3'-6" x 3'-6"; vacuum pump, 6' x 8'; oxygen installation, 6' x 9'.

### POWER REQUIREMENTS:

120 VAC, 60 Hz, 1-ph, 4 KW for decompression chamber; 208 VAC, 60 Hz, 3-ph, 1 KW for instrument air compressor; 208 VAC, 60 Hz, 3-ph, 25 KW for ventilating air compressor; 208 VAC, 60 Hz, 3-ph, 5 KW for air conditioning compressor-condenser unit; 208 VAC, 60 Hz, 3-ph, 40 KW for vacuum pump.

### PUBLICATIONS FURNISHED:

1. Maintenance Handbook w/PC for Altitude-Training Rapid-Decompression Chamber, NAVEXOS P-2240 (U)
2. Utilization Handbook for Altitude-Training Rapid-Decompression Chamber, NAVEXOS P-2241 (U)

### PERSONNEL:

**Instructors:** Minimum of Three (3) plus flight surgeon.

**Operators:** Minimum of Three (3)

**Trainees:** Eighteen (18) for high altitude flight indoctrination; Two (2) for pressure suit training.

**Maintenance:** Minimum of Two (2)

### CONTRACT IDENTIFICATION:

Manufactured by Guardite Co., Dif. of Martin-Marietta Corp., Wheeling, IL under NAVTRASYSCEM Contract No. N61339-460.

### LOCAL STOCK NUMBER:

6930-LL-C00-7116

### PHYSICAL INFORMATION:

COMPONENT	RATING	FLOOR SPACE	WEIGHT (LBS)
Vacuum Pump	845 cfm	6' x 8'	8,400
Air Conditioning Compressor Condenser	5 ton 66,700 btu	3-1/2' x 3-1/2'	675
Ventilating Air Compressor Air Receiver Storage Tank	-----	4-1/2' x 6'	1,830
Instrument Air Compressor	5-1/4 cfm	2' x 4'	295
Oxygen Cylinders	1,800 psi	2' x 9'	----
Chamber	-----	10' x 32'	76,000

### Chamber Dimensions:

	LG	W	H
Overall	33	x 13-1/2	x 13-1/12', including projections
Obs Lock	5	x 8	x 8", inside
Int. Lock	6	x 8	x 8", inside
Main Chmb.	18	x 8	x 8", inside
Headroom	--	--	7', to false ceiling

Chamber overall dimensions include projecting valves and controls after erection in building. Shipping width can be reduced to 11-1/2', approximately, by removing 8" recompression valve, on chamber right, and automatic control valve and battery rack on chamber left wall.