



PARKER MEDICAL, INC.

High Voltage X-Ray Imaging Components

X-Ray Tube Cooling Systems

Medical
Industrial
Product Design
CNC Machining
Plastics Molding
Cables & Harnesses
Connectors
X-Ray Tube Cooling
X-Ray Beam Control
Measurement Devices
X-Ray Source Design

PMI x-ray tube cooling systems remove heat from the x-ray tube permitting increased tube loading and faster cooling. This allows greater throughput, longer operation and extends tube life. Several PMI designs not only cool the tube but replace some of the functions of the x-ray tube housing. Custom units are developed to meet customer application requirements.

H296 High-Capacity Oil-Air Cooling System

The versatile H296 cooling unit performs functions other than cooling the x-ray tube. With selectable options the unit can be used to “top off” and continuously maintain clean and gas-free circulation. With the accumulator as a part of the cooling system the size of the x-ray tube unit can be reduced. Pressure, flow and temperature monitoring devices are optional to protect the x-ray tube.

General Specifications

COOLING CAPACITY	8000 WATTS (DEPENDENT ON INCOMING FLUID TEMPERATURE)
COOLANT FLOW RATE	4-1/2 GALLONS PER MINUTE
COOLANT	HIGH DIELECTRIC STRENGTH OIL OR ETHYLENE-GLYCOL AND DEIONIZED WATER

POWER SPECIFICATIONS

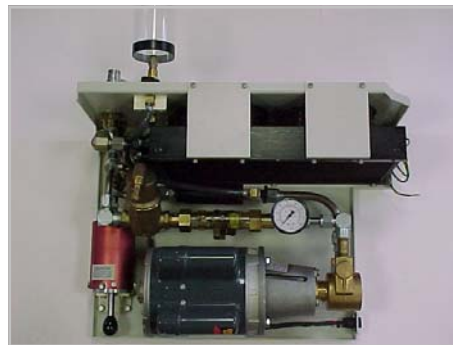
POWER SUPPLY	
P1 MODEL	220 VAC, 3.5 A, 50/60 HZ
P2 MODEL	110 VAC, 6.8 A, 50/60 HZ

PHYSICAL SPECIFICATIONS

COOLING UNIT DIMENSIONS	24-CM H x 58-CM W x 42-CM D 9.5" H x 23" W x 16.5" D
COOLING UNIT WEIGHT	36 KG (80 LBS) APPROX.

OPTIONS

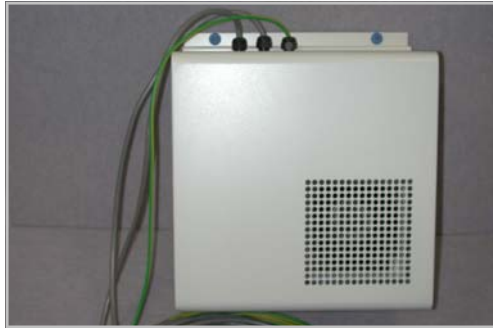
ACCUMULATOR PUMP	EVACUATES/FILLS SYSTEM, PROVIDES POSITIVE INTERNAL PRESSURE PREVENTING OIL LEAKS INWARD, COMPENSATES FOR SYSTEM VOLUME CHANGES
VENTILATOR	REMOVES GASSES FROM COOLANT IMPROVING HV STABILITY AND COOLING EFFICIENCY
FLOW METER	INDICATES COOLANT FLOW WITH INTERLOCK SWITCH WITH VARIABLE TRIP POINT
COOLANT FILTER	REMOVES CONTAMINANTS FROM COOLANT AND SERVES AS AN INSPECTION WINDOW
PRESSURE GAGE	MONITORS SYSTEM PRESSURE
FILLING RESERVOIR	USED TO INTRODUCE OR REMOVE COOLANT DURING MAINTENANCE PROCEDURES



H296 high-capacity 8000-watt oil-air cooling system with options to increase tube life.

Water-Air Cooling Units

PMI water-air cooling units remove heat from the x-ray tube housing permitting increased tube loading and cooling. The system is comprised of six major components assembled in a compact enclosure which can be mounted up to eighty feet from the x-ray tube. Ethylene-glycol and water is circulated through the system by means of a magnetically coupled gear pump.



General Specifications

H114 COOLING CAPACITY	500 WATTS DEPENDENT ON INCOMING FLUID TEMPERATURE
H551 COOLING CAPACITY	1300 WATTS (100,000 HEAT UNITS PER MINUTE) DEPENDENT ON INCOMING FLUID TEMPERATURE
AMBIENT AIR	0°C (86°F) MAXIMUM
COOLANT FLOW RATE	2 LITERS (1/2 GALLON) PER MINUTE
COOLANT PRESSURE	5 PSI (MAXIMUM)
COOLANT CAPACITY (RESERVOIR)	1 LITER (1 QUART) APPROX.
COOLANT CAPACITY (SYSTEM)	2 LITERS (1/2 GALLON) APPROX.
COOLANT (EGW)	50% SOLUTION ETHYLENE GLYCOL & DE-IONIZED WATER

POWER SPECIFICATIONS

POWER SUPPLY	
P1 MODEL	220 VAC, 1.5 A, 50/60 HZ
P2 MODEL	115 VAC, 2.0 A, 50/60 HZ
POWER CORD(MOTOR)	18-MTR (60 FT) 3/C #16 AWG
INTERLOCK CORD (FLOW SWITCH)	18-MTR (60 FT) 2/C #18 AWG
GROUND WIRE (POWER CORDS UNTERMINATED)	18-MTR (60 FT) 1/C #12 AWG

PHYSICAL SPECIFICATIONS

COOLING UNIT DIMENSIONS	37-CM H x 30.5-CM W x 15-CM D 14.5" H x 12" W x 6" D
COOLING UNIT WEIGHT	10KG (22 LBS) APPROX.
HOSE (2)	24-MTR (80 FT) MAXIMUM 0.64-CM (1/4") ID

ENVIRONMENTAL SPECIFICATIONS

OPERATING ENVIRONMENT	16°C TO 40°C (61°F TO 104°F) 15 TO 95% RH
TRANSPORT AND STORAGE	-30°C TO 30°C (-22°F TO 86°F) 0 TO 95% RH

Oil-Air Cooling Units

PMI H287 oil-air cooling unit circulates and cools the x-ray housing insulating oil..

General Specifications

HEAT DISSIPATION	925 WATTS (75,000 HEAT UNITS PER MINUTE) WITH AIR TEMPERATURE @ 26°C (75°F) AND OIL TEMPERATURE @ 79°C (175°F)
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POWER SPECIFICATIONS

H287-115	110-220 VAC, 1.7 A, 50/60 HZ
H287-230	220-230 VAC, 1.0 A, 50/60 HZ

PHYSICAL SPECIFICATIONS

COOLING UNIT DIMENSIONS	37-CM H x 30.5-CM W x 15-CM D 14.5" H x 12" W x 6" D
COOLING UNIT WEIGHT	10KG (22 LBS) APPROX.