

Choosing the Right CT X-ray Tube



NEW

V.S.

Used

CT system designs have continually advanced in technology providing more detailed diagnostic information. These advancements have challenged the design capabilities of many of the components in the scanners from the gantry and generator to the X-ray tube. The X-ray tube design has changed to meet these new requirements and the cost of these tubes has increased accordingly. However, as a result of reduced reimbursements operating budgets are under increased scrutiny.

As CT technology advanced, many older CT systems were retired in favor of these newer and more advanced systems. Components such as the X-ray tubes are recycled back into the imaging community with the expectation of reducing operating costs of these newer systems. The effectiveness of this decision depends on many parameters. But, will a used tube really pay off in the long term?

DUNLEE

New Tubes



Used Tubes



Original boxes are designed to absorb shock and protect the tube from weather damage

In any imaging department, downtime is not only lost revenue but it is a delay in providing patient care. The most efficient and financially beneficial CT system is one with the least downtime. When the situation requires a replacement X-ray tube, the most secure decision is to replace it with a new tube that will provide longer operating and optimum image quality, with lower life dose to the patient.

Used tubes come in several flavors. It may be called refurbished, repaired, remanufactured, or pre-owned. The difference is mainly in semantics. A used tube may be shipped directly from one system installation to another with no testing or qualification involved. The supplier assumes that if it worked in the initial system, it must be totally functional. In other cases, the work performed may range from cleaning and painting the housing, to repairing an oil leak, or to replacing defective parts. The critical insert performance cannot be improved, so these are just cosmetic and short term fixes at best.

A new tube will be a new insert in a new housing or a new insert in a reconditioned and tested housing. Reusing housings is not only an environmentally friendly; it also helps control the product cost without sacrificing performance or safety. Dunlee tests every tube housing for mechanical and radiation integrity before it is placed into our assembly process. We also design our own new version of each tube housing, so we are not dependent on the quality of returned housings.

Installation of a new tube from Dunlee provides many benefits. A new tube comes with a performance guarantee to meet OEM operating specifications. At Dunlee, the focal spot size and the image quality have been tested and verified on a similar scanner and to current examination protocols prior to shipment, insuring optimum image quality. With any used tube, the actual tube usage and operational protocols will be unknown and quality of the images will not be optimal.

Many times the tube installation uncovers additional problems. Dunlee offers technical assistance to guide installers through the process. Our experts are available 24x7 whether it's for the installation and calibration of the tube or to troubleshoot generator or system problems.

Transporting an x-ray tube is a calculated risk. Original boxes are designed to absorb shock and protect the tube from weather damage. A used tube may not have the benefit of the OEM container for protection. If there is breakage during transport, the new owner assumes liability. Commercial carriers do not cover glassware. Dunlee has engineered packaging that meets or exceeds the original OEM container, helping to insure a quality product arrives on site that has not been compromised in transit.

The differences between New and Used are easy to see:

	New	Used
Always in Inventory	✓	
Meets all OEM Specifications	✓	
Tested on Clinical Equipment	✓	
Meets all FDA Requirements	✓	
FDA Approved Technical Data	✓	
Longer Life	✓	
24 x 7 Technical Assistance	✓	
Guaranteed Quality	✓	
Full Manufacturer's Warranty	✓	
Transportation Insurance	✓	
Better Value	✓	
Lower Initial Cost		✓
Limited/No Warranty		✓
Inconsistent Dose to Patient		✓
More Liability and Risk		✓

During its initial use, the used tube will have experienced some operational stress. The filament may become brittle, evaporate, or break. Any transportation shock may displace critical elements and shorten its life even further, or fail completely at installation.

Some suppliers may or may not offer a limited warranty on used tubes. This demonstrates the level of confidence in the remaining operational life. Even if you're in a situation with a short period before complete system replacement, you should consider how much downtime you are willing to risk.

New versus used is a decision based on a local need. New will last longer but used will be less expensive initially. New will meet specifications every time, where used may not perform at all.

Philips/Dunlee is one of the leading tube manufacturers in the world. Our products comply with UL and CE safety standards. As a manufacturing facility, we are ISO 13485 certified which is the equivalent to ISO 9000, except dedicated toward medical devices. The typical remanufacturer, reseller, or reloader cannot match our level of commitment to quality, excellence, and guaranteed performance.

Contact your representative for information on choosing the right tube – a new CT X-ray tube from Philips and Dunlee.