

**Thermal**

**Monitoring**

# FOCUS 2000

infrared

Thermal Imaging Monitoring Systems

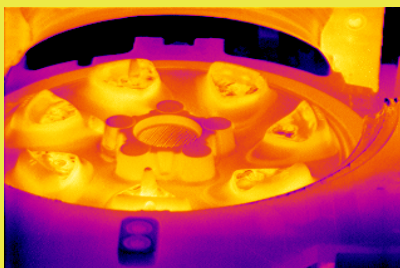
## TMS-2000™

### Applications:

- Industrial Process Monitoring
- Metal Shredders
- On Line Monitoring
- Over Temperature Monitoring
- Critical Temperature Control
- Critical Area Monitoring
- Petro-Chemical

### IR Window:

Germanium is used for the thermal window. The Knoop Hardness of Germanium (780) make it ideal for IR applications requiring rugged optics.

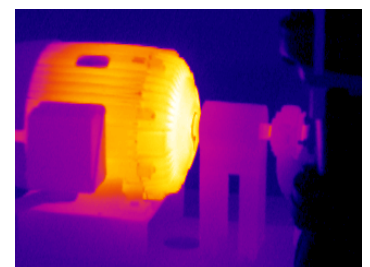


TMS-2000 thermal monitoring and imaging system has been designed to provide thermal monitoring in hostile environments.

Using a thermal camera that is sensitive to infrared energy, temperature changes within a scene can be monitored with great accuracy.

The TMS-2000 produces extremely sensitive, high quality infrared images.

TMS-2000 includes many unique design features that ensure optimum performance under service conditions. Using a high resolution infrared detector to produce the thermal picture, the system can also incorporate a high definition visual camera to aid object recognition.



# F2K

...it's time to get focused...



Metal Shredder

TMS-2000™

*Thermal Vision For Seeing Through Steam*

Application:

METAL / CAR SHREDDER INSTALLATIONS

Industry:

WASTE PROCESSING AND RECYCLING

Principle:

Throughout the world vehicles of all kinds are being crushed in shredder installations as the first step in the recycling process. Due to the high friction that occurs during the fragmentation process a lot of dust, but also a great deal of heat is generated. Water is sprayed on to the crusher for reducing the dust, however causing steam to develop. The processing of some materials can also produce smoke. Steam and smoke restrict the visibility of the shredder charging, which a machine operator has to supervise continuously for possible material jams. An IR camera can distinctly identify the conveyor roller and exactly locate the position of any material jam through this mist.

Benefits:

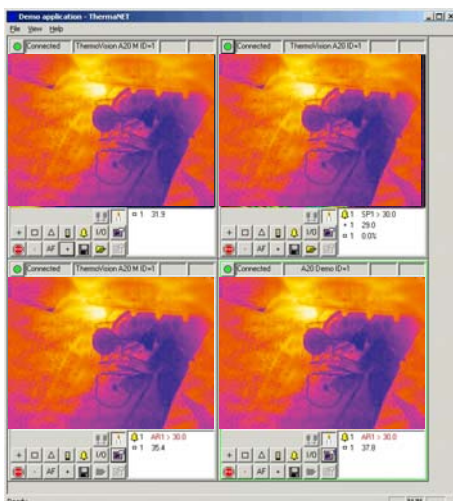
- Continuous supervision of the installation, in spite of steam and smoke
- Rapid detection of jams using IR video image
- Fewer downtimes and thus higher productivity and profits

IR colour Video image of a jam on the right-hand conveyor roller side.



# TMS-2000™ 20V

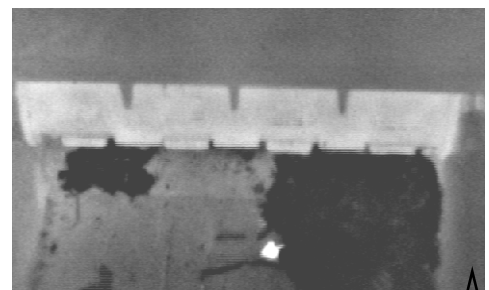
IMAGING PERFORMANCE	
Field of View	Choice of 9° / 19° / 34°
Thermal Sensitivity	0.1°C at 30°C
Focus	Electric motor or Manual fixed
Detector Type	Focal Plane Array (FPA)
	Uncooled microbolometer 160 x 120 pixels
Spectral Range	7.5 to 13 µm
IMAGE PRESENTATION	
Video Output	PAL or NTSC, standard RCA composite video
POWER SYSTEM	
AC Operation	AC operation, 24, 90-260 V AC, 50/60Hz
ENVIRONMENTAL SPECIFICATION	
Operating Temperature Range	-15°C to +55°C
Storage Temperature Range	-40°C to +70°C
Humidity	Operating and storage 10% to 95%, non-condensing
Encapsulation	To suit application, IP65 / IP66 / IP67
Shock, operational	25G, IEC 68-2-29
Vibration, operational	2G, IEC 68-2-6
INTERFACE OPTIONS	
IEEE-1394 FireWire	
RJ-45 Ethernet	
FEATURES	
Image Freeze	Digital image freeze
Image Display	B&W, white or black hot, Colour
Auto-Adjust	Continuous image contrast optimisation



Ethernet communication allows all sites to be monitored from a central location



Infrared can also be used for fire detection



Thermal Imaging technology with the ability to see through steam. The thermal image in monochrome or colour

