

## GURU® DL 2.1

### LOCOMOTIVE FREEZE PROTECTION



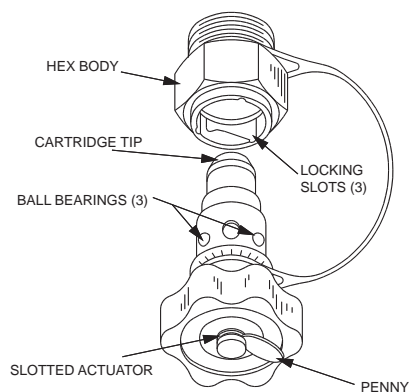
## BENEFITS

- Will not trip or dump while locomotive is running
- Fully automatic - it never forgets to activate freeze protection
- Completely mechanical - No electrical or air connections
- Not affected by air flow or air temperature surrounding valve - releases only when cooling water reaches setpoint
- Rapid draining
- Easy system refill
- Models available to convert existing freeze protection
- Easily tested in field
- Slotted actuator feature prevents nuisance dumps when refilling cooling system with cold water
- Unit automatically rearms after filling and reheating



## DESIGN FEATURES

- Actuator sensing surface is the only wetted part
- Long service life: All moving parts are stainless steel
- Design excludes cooling water chemicals and other debris from moving parts
- Easy maintenance
- Several body styles available for various applications: 1-1/4 NPT, tee, and flanged tee.
- Paint mask minimizes accidental paint-ins
- Knob on cartridge for easy installation and removal even in awkward locations
- Choice of release temperatures: 35°F or 40°F



The GURU® DL 2.1 Plug is available in the models shown for new installations or to retrofit existing freeze protection systems by Ogontz, Prime, Salem, Graham-White, and Microphor.

## OPERATION

The GURU® DL 2.1 is the most widely used and proven locomotive freeze protection valve in the world. It may be thought of as an automatic freeze-out plug with one important difference: The stainless steel GURU® Cartridge releases itself from its body at a pre-set water temperature (35°F or 40°F), rather than being forced out by the tremendous pressure of expanding ice. This provides almost a full one inch bore to rapidly drain the typical locomotive before damage can occur.

Resetting and rearming the GURU® Plug is easily accomplished by simply reheating the cartridge and utilizing our GURU® Flag and Clip tool with slotted actuator feature. This feature prevents the GURU® Plug from triggering open again while refilling the cooling system with cold water.

## APPLICATIONS

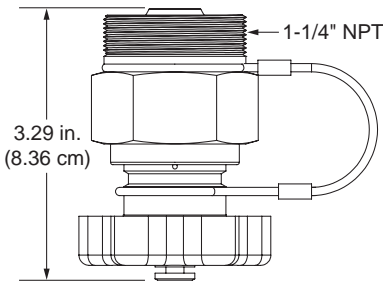
- Locomotive engine and compressor set cooling systems
- Stand-by diesel heating circulators
- Back-up protection in event of shut-down
- Hot water cab heater lines
- On-board tanks and piping

# GURU® DL 2.1

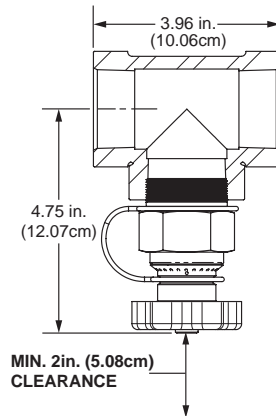
## LOCOMOTIVE FREEZE PROTECTION



### DL 2.1 TYPE S



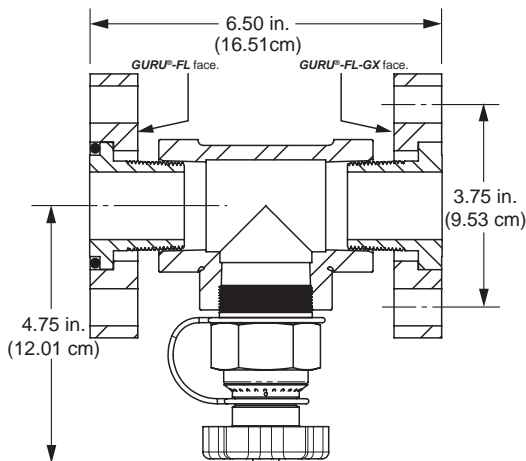
### DL 2.1 TYPET



### TYPE-S ANTI-TAMPER



### DL 2.1 TYPE FL & FL-GX



Available with both flanges grooved (Type FL) or both flanges flat-faced (FL-GX).

### FLAG AND CLIP (SINGLE LANYARD)



### ANTI-TAMPERING (3 LANYARDS)



## ORDERING INFORMATION

PART NUMBER		DESCRIPTION	NOTES
35°F RELEASE	40°F RELEASE		
481-04-82-CART	481-04-81V-CART	DL 2.1 CARTRIDGE	REPLACEMENT GURU® DL CARTRIDGE
487-04-88	487-04-87	DL 2.1 TYPE S	
482-04-88	482-04-82	DL 2.1 TYPET	
483-04-88	483-04-83	DL 2.1 TYPE FL	GROOVED FLANGE QUAD SEAL
483-04-88-GX	483-04-83-GX-V	DL 2.1 TYPE FL-GX	FLAT FACED FLANGES
475-001110-035	NA	TYPE-S 35°F: ANTI-TAMPER	
04-052		FLAG AND CLIP WITH STROBE LIGHT	PREVENTS NUISANCE DUMPS WHEN REFILLING
04-066		ANTI-TAMPERING ASSEMBLY, WITH STROBE LIGHT	PREVENTS NUISANCE DUMPS WHEN REFILLING
FOR WATER COOLED AIR COMPRESSOR FREEZE PROTECTION, SEE GURU® CH & CHS PRODUCT SHEET.			

The suitability of the valve for the intended application is the responsibility of the end user. GURU® DL 2.1 valves are covered by a 1-year warranty.