

# GURU® DL 2.1

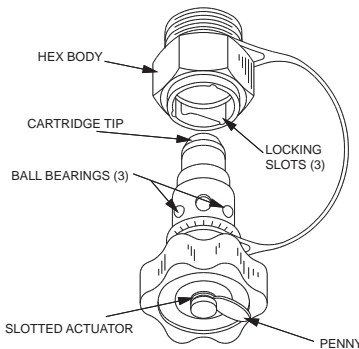
## LOCOMOTIVE FREEZE PROTECTION

### 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 required
- Not affected by air flow or air temperature - releases only when cooling water reaches set-point
- Rapid draining
- Easy system refill
- Easy maintenance and field tested
- Slotted actuator feature prevents nuisance dumps when refilling cooling system with cold water
- Unit automatically rearms after filling and reheating
- Optional domed anti-tamper cap eliminates ability to tamper with the valve resetting stem
- Self-operating, no power or signal required

### DESIGN FEATURES

- Thermal 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
- 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 hard to reach locations
- Choice of release temperatures: 35°F or 40°F
- Extra port for temperature bushing



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.

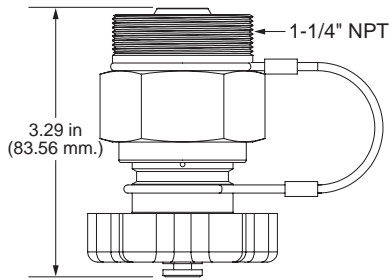
### APPLICATIONS

- 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

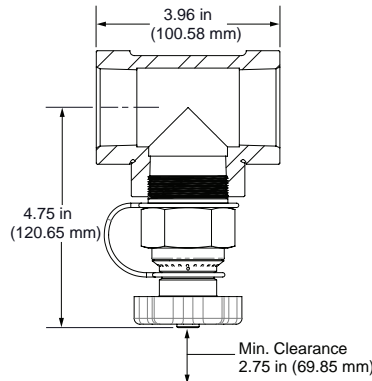
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## LOCOMOTIVE FREEZE PROTECTION

### DL 2.1 TYPE S



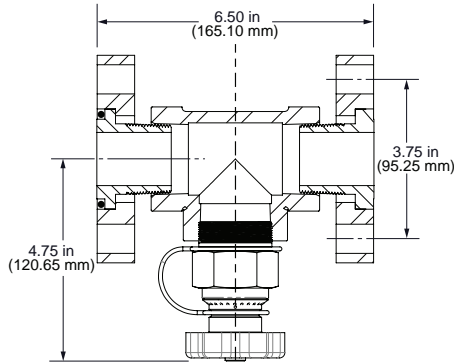
### DL 2.1 TYPE T



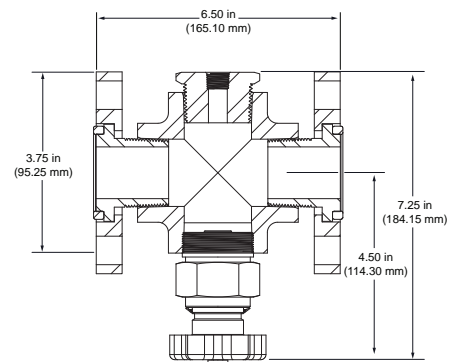
### TYPE S ANTI-TAMPER



### DL 2.1 TYPE FL & FL/GX



### DL 2.1 TYPE CR/FL/P & CR/FLGX/P



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

## ORDERING

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 TYPE-T	
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
475-009100-035		DL 2.1 TYPE CR/FL/P	CROSS w/ PLUG & GROOVED FLANGE QUAD SEAL
475-008100-035		DL 2.1 TYPE CR/FLGX/P	CROSS w/ PLUG & FLAT FACED FLANGES
475-001110-035		TYPE-S 35°F: ANTI- TAMPER	
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.



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Because of continuous improvements, ThermOmegaTech®, Inc. reserves the right to change the design and specifications without notice