ThermOmegaTech®

# GURU® DL 2.1

## LOCOMOTIVE FREEZE PROTECTION

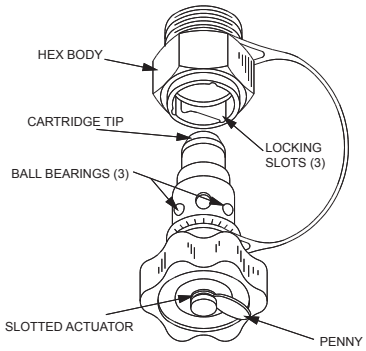
## BENEFITS

- 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.

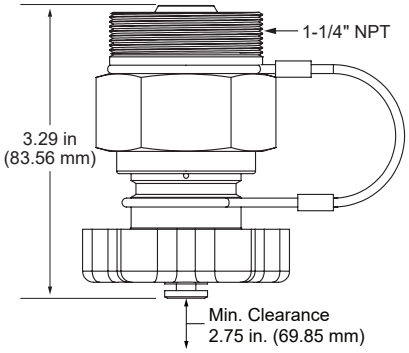
## APPLICATIONS

- 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

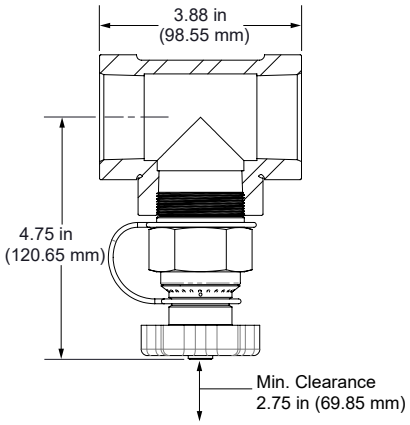
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## LOCOMOTIVE FREEZE PROTECTION

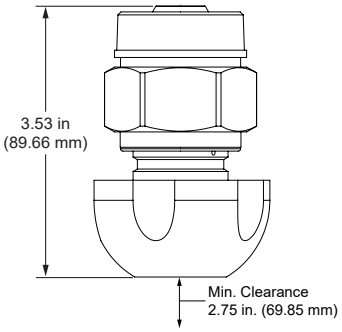
### DL 2.1 TYPE S



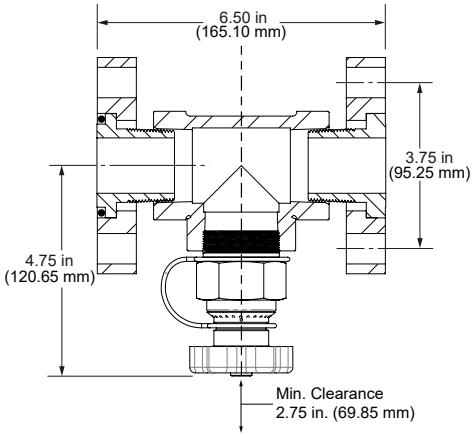

### DL 2.1 TYPE T



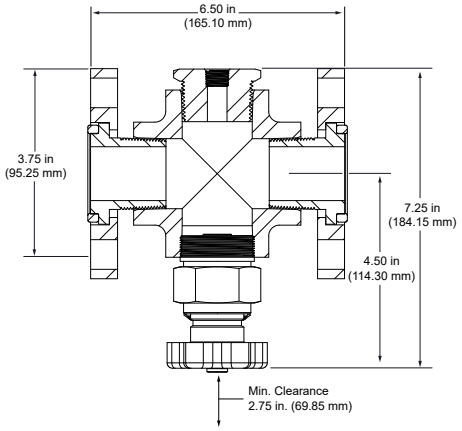

### TYPE S ANTI-TAMPER




### 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 | 475-001010-040 | TYPE-S 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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GURUDL2.1
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*Because of continuous improvements, ThermOmegaTech®, Inc. reserves the right to change the design and specifications without notice*