



## KUNKLE VALVE PRESSURE RELIEF VALVES

### INSTALLATION AND OPERATING INSTRUCTIONS

Before installation these instructions must be read fully and understood

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#### HANDLING

This pressure relief valve is designed to protect equipment from overpressure. The valve should be handled with care, not subjected to heavy shock loads and protected to prevent contamination from getting inside. It should be installed correctly per ASME boiler and pressure vessel code requirements, where applicable. Failure to do so could result in property damage or serious injury to personnel. When hoisting the valve into position for installation, care should be exercised so that lifting straps do not contact the valve lift lever.

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#### PRE-INSTALLATION

##### *Verification of model and service media/capacity/temperature/pressure limits*

Verify the model number on the tag against the model number of the order. For European service, verify the 'CE Mark' tag is connected to the valve. Verify the service media, capacity, temperature and pressure limits of the valve against the application. Please note the marked capacity is based on standard temperature and pressure conditions and is valid only for the service media noted on the catalog order guide. Adjustments to the capacity must be performed for different temperatures or service media and are the responsibility of the end user to determine.

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#### INSTALLATION

Always wear proper safety equipment, including safety glasses and ear protection.

1. Mount the valve in a vertical position so that the valve body is self-draining. If a body drain port is provided, make sure it is open when required by the ASME code.
2. When discharge piping is connected to the valve outlet, make sure it is self-draining if a body drain port is not used. The valve should not be connected to any discharge pipe that contains pressure before the valve opens or to any pipe where the pressure build-up is greater than 10% of the set pressure when the valve is open and relieving. Discharge piping, other than a short tailpipe, must be supported. For steam service, a drip pan elbow or flexible connection between the valve and the pipe should be used to prevent excessive pipe stress, due to thermal expansion, from being imposed on the valve body.
3. For threaded valves, to prevent sealing compound from entering and damaging the valve, apply a small amount of pipe thread sealing compound to external threads only. Do not put any sealing compound on the first thread or on any internal threads. To do so may cause the sealing compound to enter the valve and cause seat leakage. Do not use the valve body or bonnet for installing the valve in threaded connections. Use the wrench flats provided to tighten the valve to the connecting pipe. Torque the valve enough to ensure a pressure-tight seal and do not overtighten. To do so may cause valve leakage.
4. For flanged valves, use new gaskets and tighten the mounting studs evenly.
5. Do not paint, lubricate or allow contaminants to enter or cover the interior or any working parts of the valve.
6. Remove gag screw (if valve is so equipped) before system start up.

Do not plug any bonnet vent openings. The inlet piping should be as short as possible, with no elbows and equal to or greater than the size of the pressure relief valve inlet connection. This will help to limit the inlet pressure drop to 3% or less when the valve is relieving.

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### OPERATION

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1. Maintain a system operating pressure at least 5 psig or 10% below the set pressure of the valve, whichever is greater. Operating too close to the valve set pressure will cause seat leakage and will shorten the time between valve maintenance.
2. Do not use the safety valve as a control valve to regulate system operating pressure. Excessive operation will cause the seat to leak and will require more frequent valve maintenance.
3. ASME Section I and VIII valves equipped with lift levers are designed to be operated only when the system pressure is 75% of set pressure or greater. ASME Section IV valves may be operated at any set pressure. When hand operating the valve, hold it open long enough to purge any foreign matter from the seat area. If a cable or wire is attached to the lift lever for remote actuation, make sure the direction of pull is the same as it would be if the lever were pulled directly by hand.

### MAINTENANCE

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Maintenance should be performed on a regular basis. An initial inspection interval of 12 months is recommended. Depending on the service conditions and the condition of the valve, the inspection interval may be decreased or increased. Use only Kunkle parts for repair. Depending on the local jurisdictional requirements where the valve is installed, repairs may have to be made by a repair facility holding a VR stamp.

#### **WARNING**

*Removal of the seal wires or any attempt to adjust, repair or modify this product by non-VR Certified personnel voids the product guarantee and may cause serious damage to equipment, personal injury and death. Kunkle Valve is not liable for any damage resulting from misuse or misapplication of its products.*