



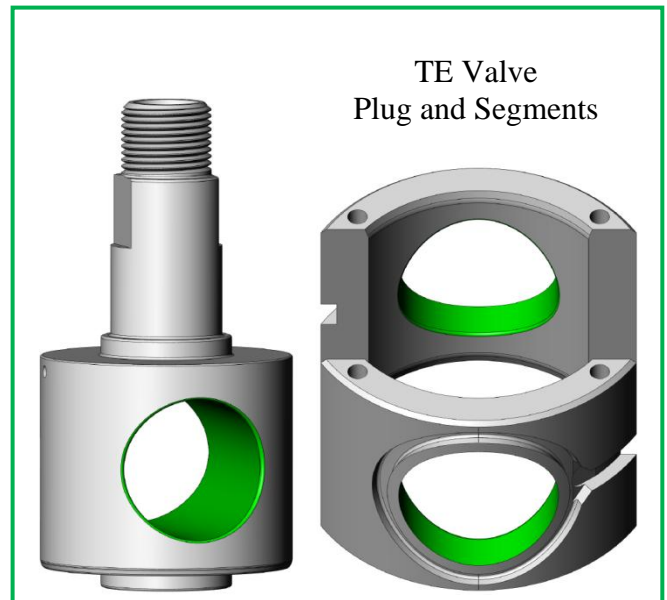
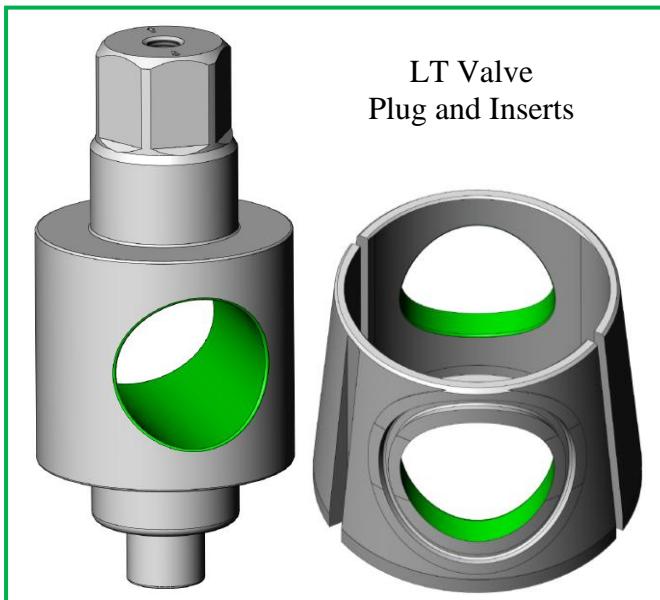
Valve Internals Replacement Criteria

MSI Technical Bulletin 022

Subject: Replacement criteria for used internal valve parts when repairing a valve.

The intent of this bulletin is to familiarize people with the recommended guidelines for internal valve parts replacement when repairing a valve. MSI makes the following recommendations:

- **Condition 1: If the parts hold pressure and do not leak, but the flow bore (highlighted in green) is washed and eroded larger than when the bore I.D. was new...**



These parts can be used only when the wear conforms to the guidelines detailed below. For more information on the effect of using worn parts, see notes 1 and 2 below. Since the bore will no longer be a perfect circle, you must measure the largest gap from one side of the bore to the other. If the bore tapers in either direction, measure the largest dimension. Compare the measurement to the following maximum acceptable dimensions:

LT Plug Valves

Plugs and Inserts Size Designation	Max Bore Criteria
1"	1.090"
1.3"	1.379"
1.75"	1.790"
2"	2.120"
2.5"	2.620"
3"	3.120"
4"	4.120"
5"	5.190"

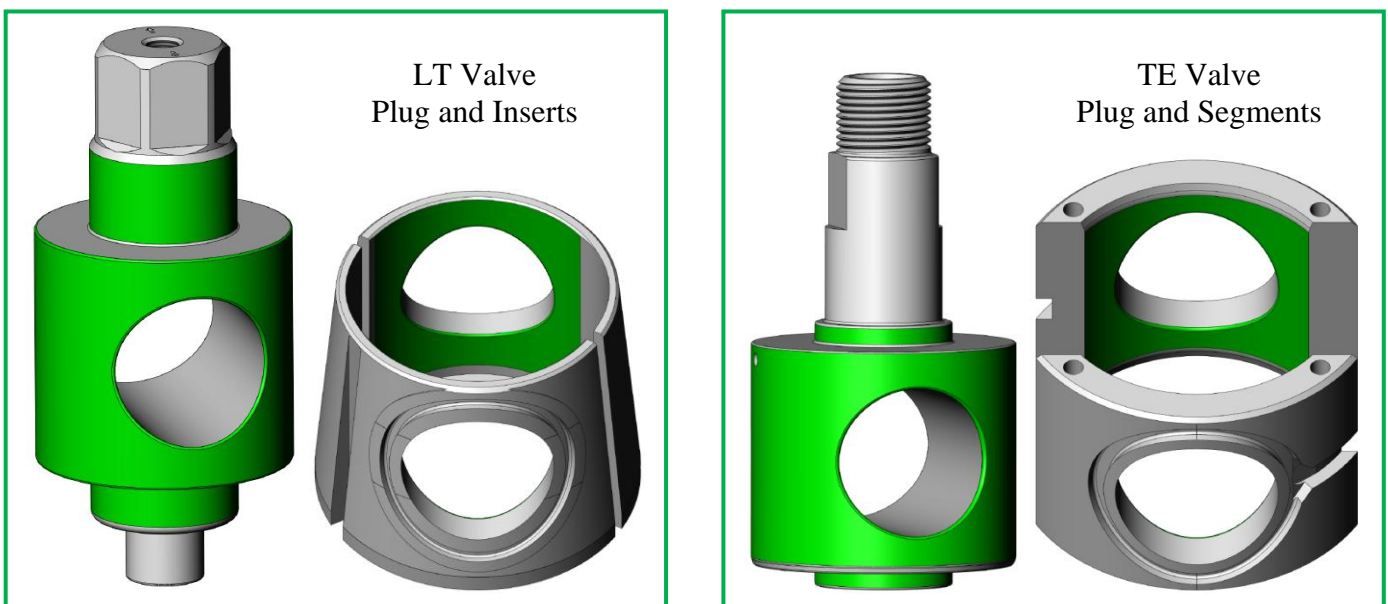
TE Plug Valves

Plugs and Inserts Size Designation	Max Bore Criteria
1"	0.915"
2"	1.775"
3"	2.785"

Note 1: Plug valves seal on the downstream side or the side opposite the pressure. The o-ring in the insert is pressured inward, trying to collapse the inside wall of the o-ring groove toward the bore. Dimensions larger than these guidelines will produce walls too thin to support the working pressure of the valve and these parts should be scrapped.

Note 2: Because the bore is larger than when new and because the eroded area tends to be uneven, worn parts create a larger internal upset in the valve which increases turbulence. This increased turbulence means that the rate of wear will increase exponentially so special consideration should be given to the application of valves with worn parts to minimize the possibility of failure during the course of the job. Continued use of parts with eroded flow bores may reduce the life of the valve body.

- **Condition 2:** If the plug OD or the insert ID (highlighted in green) is damaged such that they no longer hold a seal and leak at working pressure...



Wet-sand minor scratches with 600-grit sandpaper and attempt a retest of the valve. If the retest fails or the parts are heavily damaged, replace the necessary parts.

You may contact an MSI representative at sales@diwmsi.com or engineering@diwmsi.com if you have any further questions or concerns, or would like to order a kit to repair your existing MSI plug valve.

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