

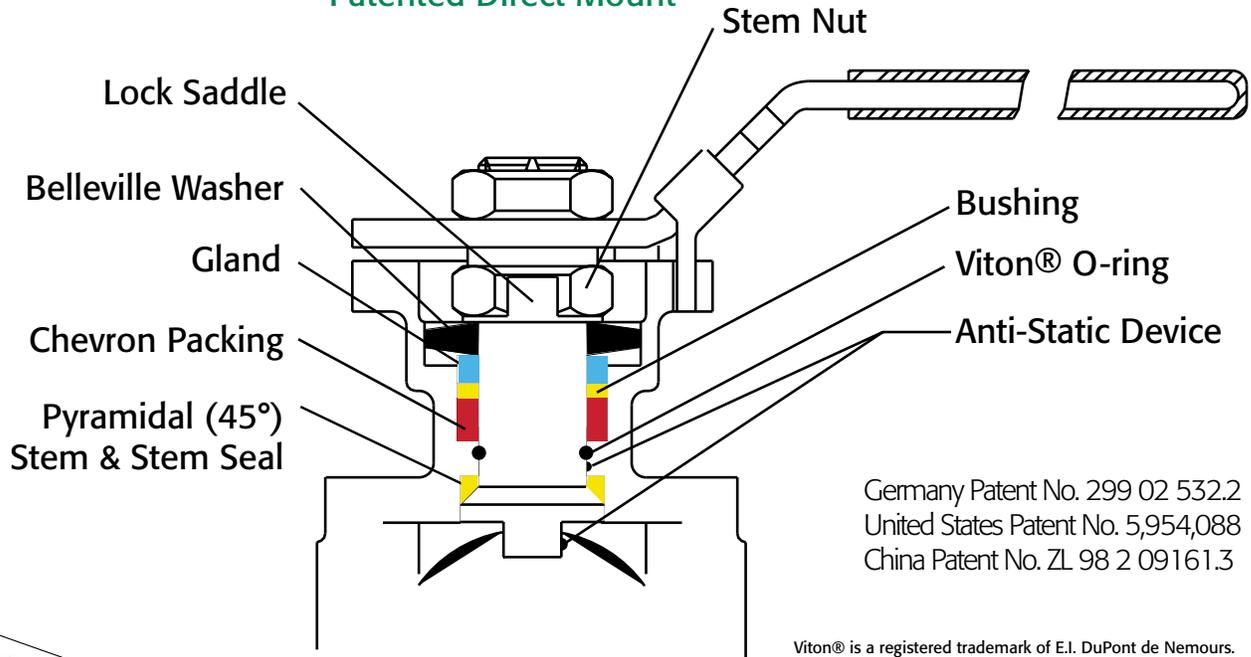


# Pyramidal Stem Seal System

The best ball valve stem seal system on the market

Provides superior protection against fugitive emissions

## Pyramidal Stem Seal Patented Direct Mount



Germany Patent No. 299 02 532.2  
United States Patent No. 5,954,088  
China Patent No. ZL 98 2 09161.3

Viton® is a registered trademark of E.I. DuPont de Nemours.

**You will not find this superior packing system available on any other ball valve!**

**Are you serious about reducing emissions?  
We are!**



# A-T Controls – Providing innovation today for a clean environment tomorrow!

*TRIAC valves receive Certificate of Compliance to TA-Luft/5.2.6.4.*

*"Pyramidal Stem Packing System" provides the best performing ball valve stem packing system on the market today.*

EPA and TA-Luft regulations:

## History

Social pressure to reduce all forms of environmental pollution started increasing in the early 1970s in Germany. This increasing awareness and pressure eventually led to the passage in 1986 of the "technical regulations on clean air" commonly known as TA-Luft. Similarly, in 1990, the Environmental Protection Agency (EPA) introduced new regulations to reduce pollution in the United States. Although the approach of the standards by these two agencies is very different, three practical results are comparable.

## TA-Luft

The TA-Luft sets maximum permissible limits for the emission of vapors or gases when processing or transferring liquid or gaseous materials, taking into account the specific risk potential. For ball valves, initial maximum leakage rates of 0.03 grams/hour are permitted for high risk materials. This value takes into account the normal limits for leakage from static seals (e.g. flange connections). This figure means that the maximum emission rate of helium (He) is  $0.99 \times 10^{-2} \text{ mm}^3/\text{s}$ . This is seen as equivalent to sealing a valve stem by means of a metal bellows with a downstream safety gland. In some cases today, even more severe requirements must be met.

## EPA

In the United States, the EPA requires all plants to monitor for the escape of environmentally damaging materials. The plant authority responsible for inspection must monitor all potential points of leakage at a regular interval. If the concentration in ppm of an environmentally harmful substance is too high, then subsequent inspections must take place much more often, until improvement is shown. Failure to comply can result in substantial fines levied or even plant shutdown in severe cases.



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