

Wellmark Mizer®

No-Bleed Pilot Valve

Applications

The MIZER No-bleed pilot valve is the most cost-effective solution for converting high-bleed pneumatic controls to low-bleed operation. This device effectively stops continuous bleed operation between dump cycles, thereby reducing environmentally concerning methane emissions, while allowing previously wasted gas to be sent to the sale line. Conservatively, user can anticipate 90% savings from recaptured gas based upon estimated cycle rates of the controls. 95-98% values may be achieved in some applications.

Features

- Kits available for:
 - Cemco cantilever level controls
 - FMC Invalco Flexlever level controls
- Uses existing tubing and connections – no new plumbing required.
- MIZER works in either snap acting or throttling application.
- MIZER solution allows field personnel to continue using control devices that are familiar.
- Conversion from high-bleed to low-bleed may qualify user for carbon credits.

Specifications

Max. supply pressure..... 64 psig
 Operating temperature..... -20°F to + 200°F
 Materials..... Stainless steel with Nitrile and Delrin® seals
 Average bleed rate..... Approx. 6.6 scf per day

Bleed gas vs. vent gas

Bleed” gas is defined as gas that bleeds to atmosphere between dump cycles. “Vent” gas is that gas which, after energizing the dump or control valve must be released to atmosphere, and is usually a small fraction by comparison to the bleed gas volume. It is because of the high bleed between dump cycles that the EPA discourages the use of high-bleed pneumatic devices to control liquid level and gas pressure. The MIZER device actually stops the continuous flow of gas from these controllers, only allowing gas to flow to the controlled device (dump valve or control valve) when necessary. Therefore, the amount of potential gas savings is dependent upon (among other things) the initial bleed rate and the frequency of operation of the controller and valve. In other words, a separator nit that fills slowly and dumps infrequently

is bleeding substantial amounts of unused gas pressure to atmosphere most of the time. All of this gas that is vented to atmosphere between dump cycles would be saved when using a MIZER retrofit-ted controller. Likewise, if the controller is very active, dumping fluid frequently, the savings would be less, as more gas is being used to activate the valve.

This gas will always be lost after the valve cycles and the diaphragm and connection lines vent. If the lines are not allowed to vent the valve will not return to the original (usually closed) position.

Ease of installation

The Cemco and FMC Invalco level control versions of the MIZER pilot valve installation is a simple and painless operation. In fact, unlike installing traditional no-bleed level controllers, which require breaking the process connection, the MIZER pilot valve is installed by simply removing the operating gas pressure from the controller, installing the MIZER, blowing out the supply line to keep it clean, reattaching the supply line and adjusting.



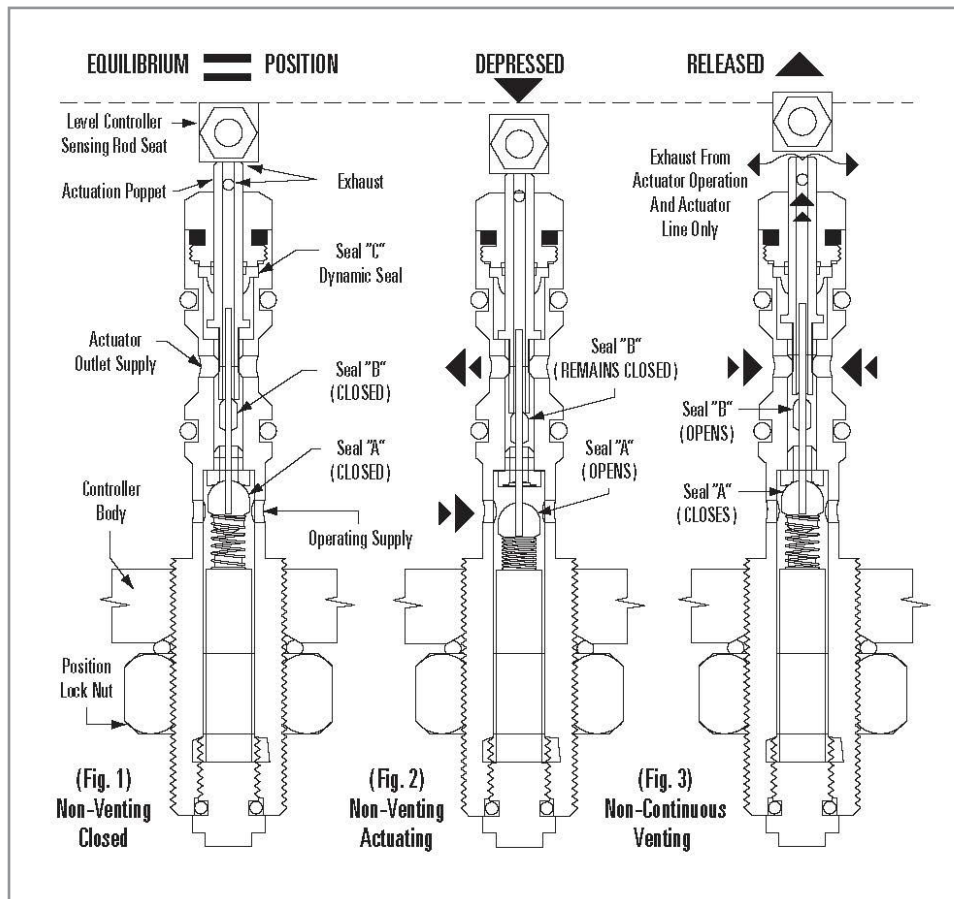
Liquid level controls - potential savings per control (3 to 15 psig controllers*)

Based upon typical onshore facility* supply pressure of 20 psig and \$6.00 gas

	Supply pressure (psig)	Bleed rate air SCFH	Bleed rate gas SCFH	Daily bleed rate SCFD	Yearly bleed rate SCPY	Annual dollars LOST to emissions
CEMCO 6900	20	19.7	26	614	224,119	\$1,344.72
FMC/ INVALCO 215	20	23	30	717	261,662	\$1,569.97
FMC/ INVALCO 402	20	23	30	717	261,662	\$1,569.97

* Offshore facilities commonly use 6 to 30 psig controllers with average supply pressure of 35 psig. Bleed rates and dollars lost due to emissions would conservatively be 1.5 times those listed above.

Method of operation



Equilibrium position: (Non-venting closed)

When the MIZER® Pilot Valve is in "steady state", both Seal "A" and Seal "B" are closed and the control flapper is in neutral position. (See Fig. 1)

Depressed position: (Non-venting actuating)

When the control flapper depresses the actuation poppet, Seal "A" is opened, supplying gas to the process valve. Seal "B" is closed, preventing gas from bleeding or venting through the vent port. The MIZER Pilot Valve is designed so that the gas flow is related to the position of the controller flapper. (See Fig. 2)

Released position: (Non-continuous venting)

When the control flapper is released it closes Seal "A" and opens Seal "B" allowing gas to vent. Venting occurs ONLY when the control valve calls for it, and then, ONLY the gas in the process line and actuator is released. (See Fig. 3)

Conversion kit assembly Part numbers

Type control	Conversion kit model no.	Part No.	Converts
Liquid Level	1110-111	06500-6905	CEMCO Cantilever Control
Pressure	4010-111	31066	FMC/INVALCO Flexlever Control