Capping valves series PZ
Water Purge

In most applications there is great advantages if ball is water flushed while operating. Water keeps the ball surface cleaner. It reduces significantly thin out of chips, dust and pitch between ball and seat. It results in better tightness and much longer service life. Clean ball surface also withstands better prevailing corrosive conditions.
When opening the capping valve digester gas will leak to the chip chute.

Especially in sulphite cooking there is sulphurous gas present which can cause health hasard if essaped to atmosphere. With correct flushing it is possible to reduce the gas outlet.
It is recommended to have a inspection flap in the chip chute.

Valve	L (mm)	H (mm)	Water volume (dm)
PZ 450	110	60	12
PZ 500	140	80	15
PZ 600	160	100	20
PZ 750	190	130	50

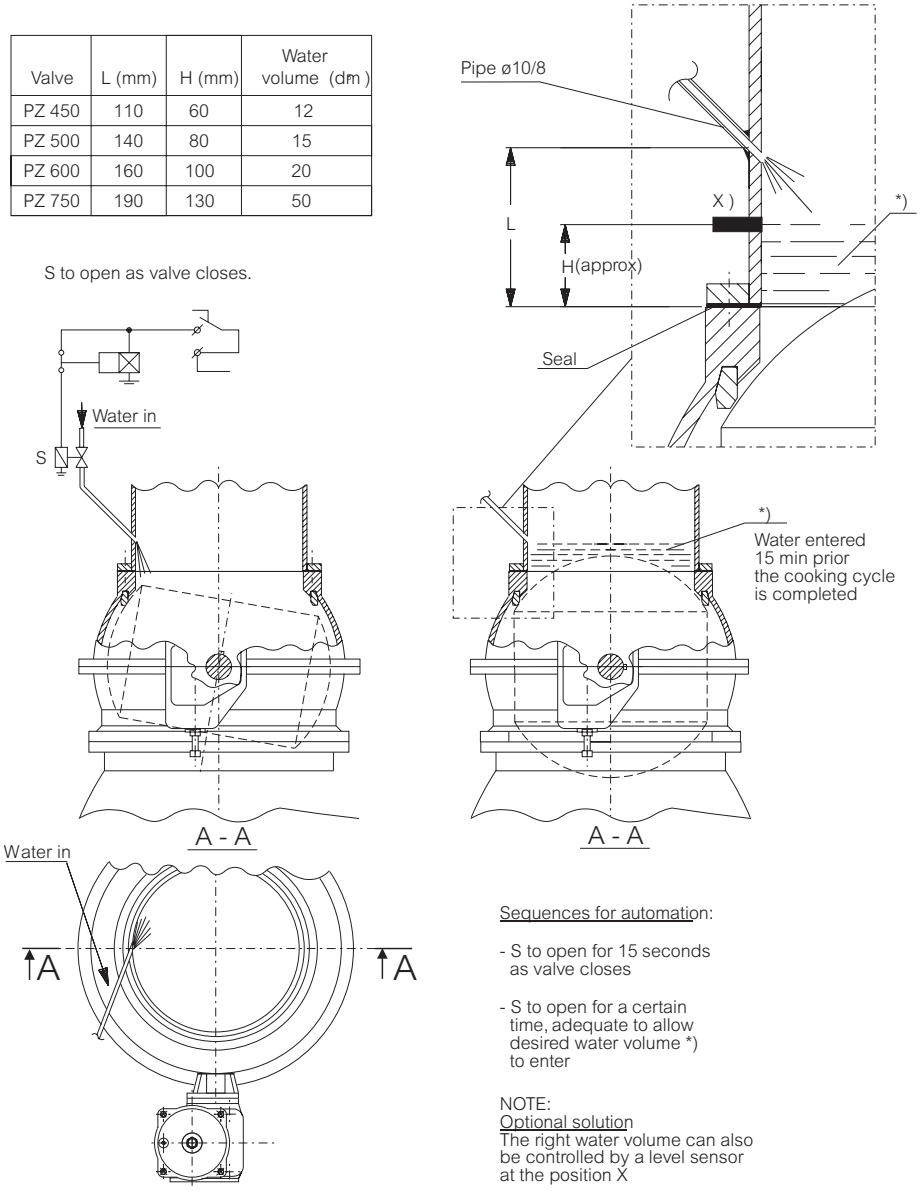

Fig. 1.

Sulphate cooking

(valve base material CF8M/316)
In sulphate batch cooking recommended flushing arrangement is shown in figure 1.

Opening phase

Flushing starts a moment before capping valve is opened. Flushing stops when capping valve is fully open.

Closing phase

Flushing starts when valve starts closing. After valve is fully closed it is recommended to let the water run on top of the ball about 10 - 15 cm (4” - 6”) before stopping the water feed. After closing the valve typically some wood chips are dropped from the chute to the ball surface. The water bed prevents chips pitch burning to the hot ball surface.
In some cases concussion caused by the closing ball can loose lots of wood chips from chute to the ball surface. In such case it is recommended to operate the capping valve once more before the cooking takes place.

Sulphite cooking

(valve base material CG8M/317)

In sulphite cooking there is possibility for small sulphurous gas (SO2) leakage. This sulphurous gas can transform to SO3 gas. When SO3 gas condensates it can create suphuric acid on top of the ball. During the cooking phase the ball surface is hot, water evaporates and sulphuric acid concentrates. The concentrated sulphuric acid can cause corrosion of ball and seat surfaces.

It is recommended to have continuous flushing when sulphite cooking is in question. Recommended flushing arrangements are following:

A) Customer builds arrangement according to figure 2.

Recommended line sizes

Valve size	Water in		Water out	Gas out
	A	B	C	D
PZ 500	1/4 NPTF	Ø11,2	Ø42,4	Ø48,3
PZ 600	1/4 NPTF	Ø11,2	Ø48,3	Ø60,3
PZ 750	3/8 NPTF	Ø14,7	Ø60,3	Ø76,1

B) Valve is delivered with separate water flushing unit (figure 3). Unit has option for gas collecting pipe.

Water flushing unit:

Valve size	Water purge unit
PZ 500 PZ 600	ID: 1234960 ID: 1050680

Flushing

Water flushing is on during the cooking phase.

1. Flushing starts little before capping valve is closed and stops when valve is fully open.
2. Water consumption is controlled to 25...50 liters / hour.
3. To avoid corrosion problems the water pH level on top of the ball must remain over 3 during the whole cooking.

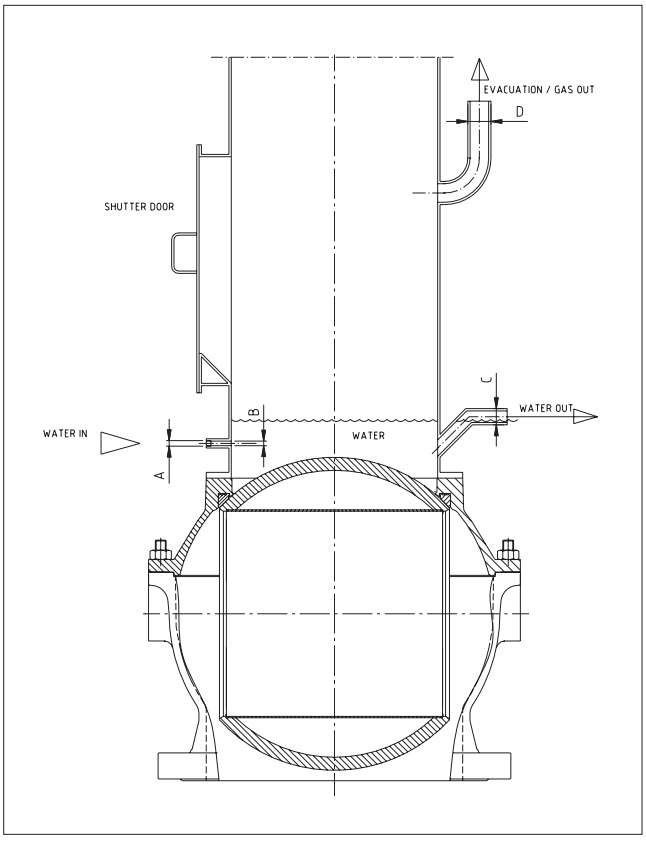

Fig. 2.

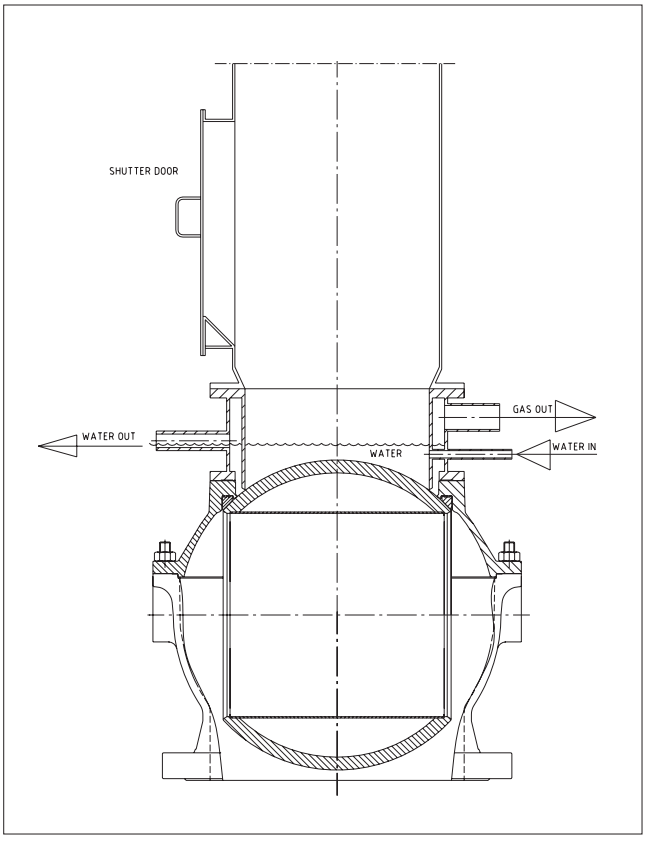

Fig. 3.

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