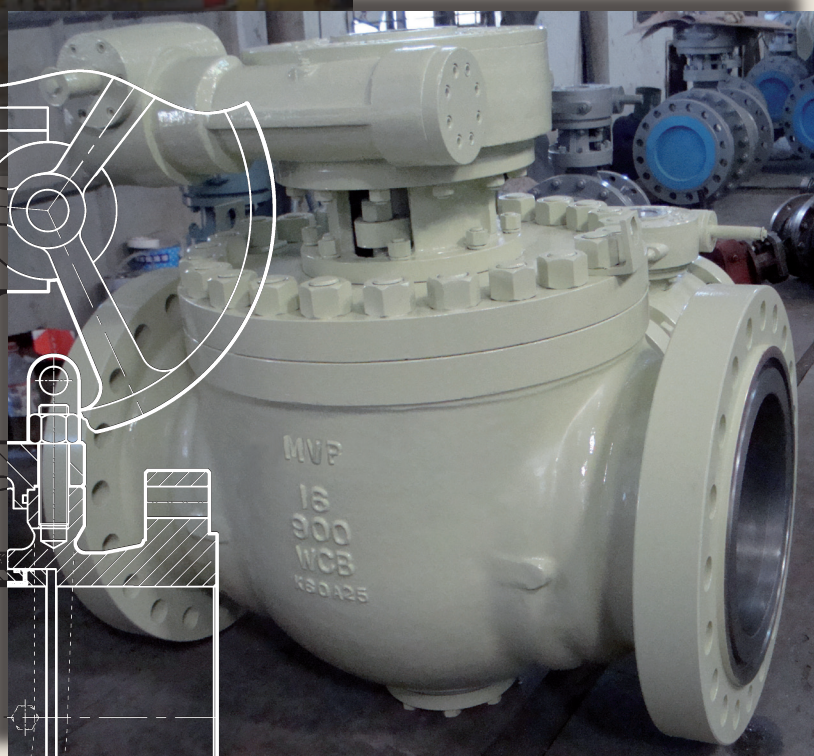
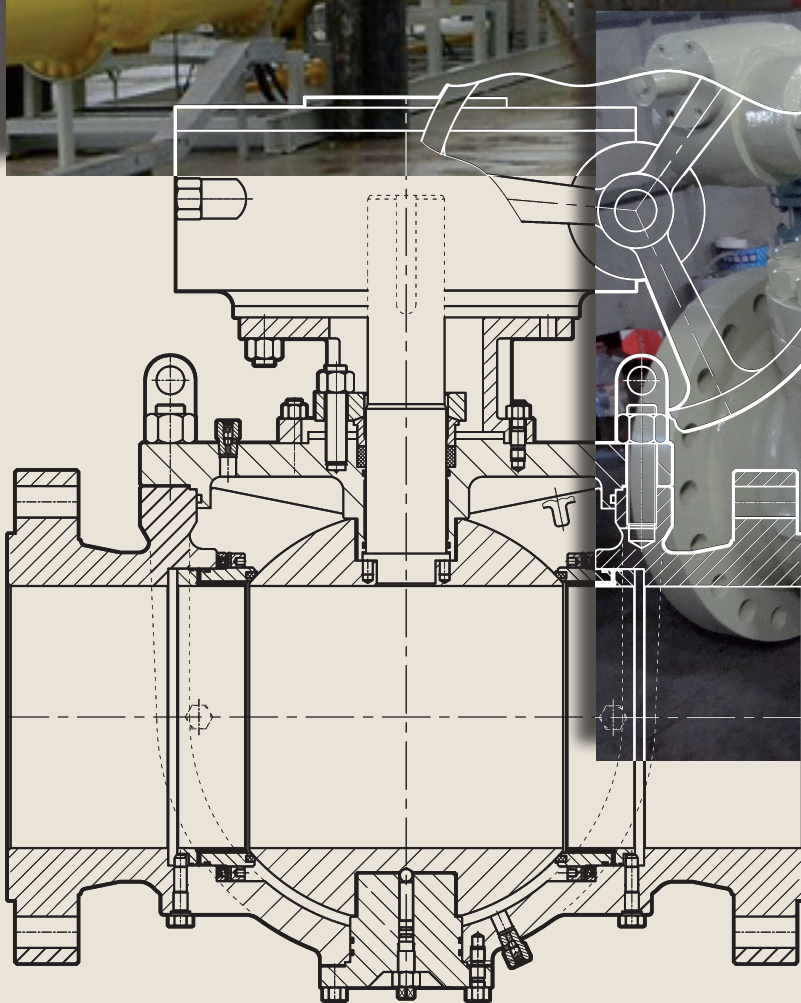


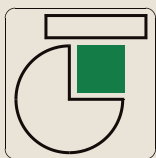
**aimco  
term**

# **Top entry cast steel ball valve**



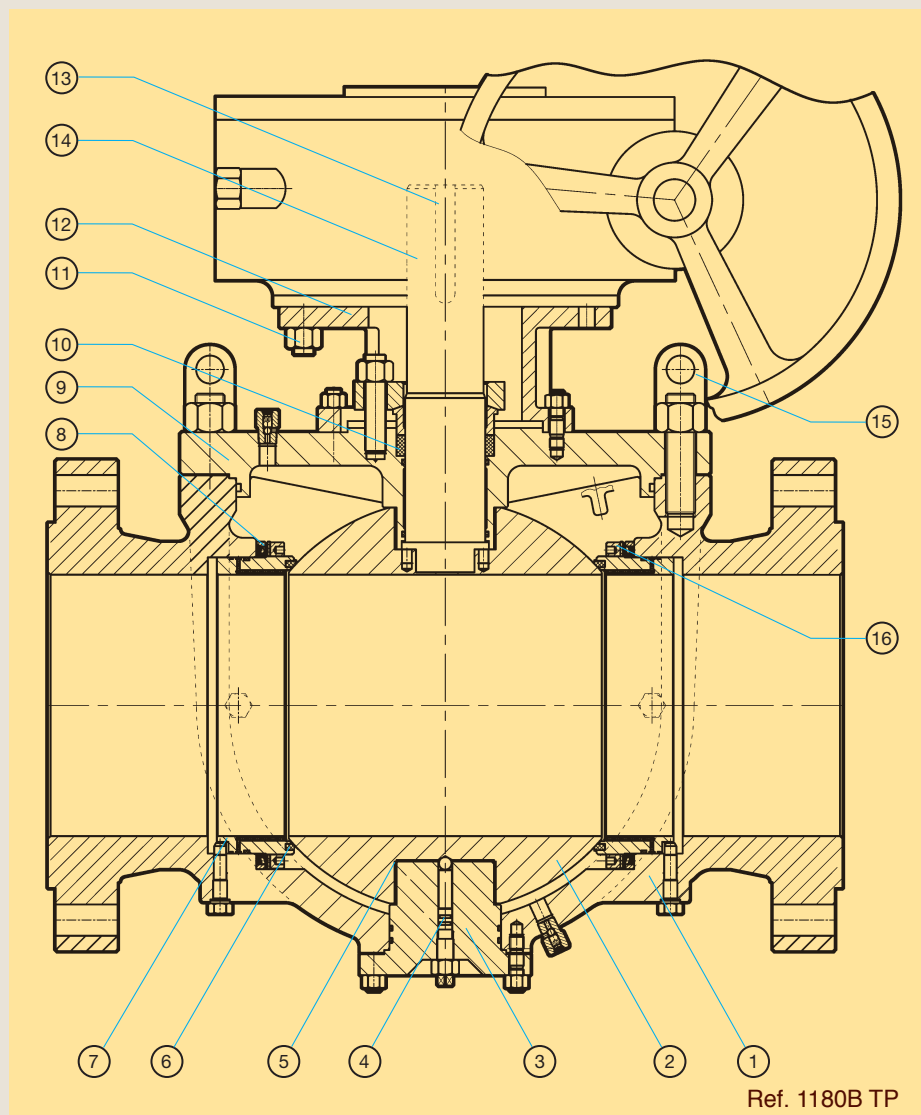
**Flange  
RF and RJ type**

**In the vanguard of the technology**



# Top entry cast steel\* ball valve 150, 300, 600, 900 and 1500 lb Flange RF and RJ type

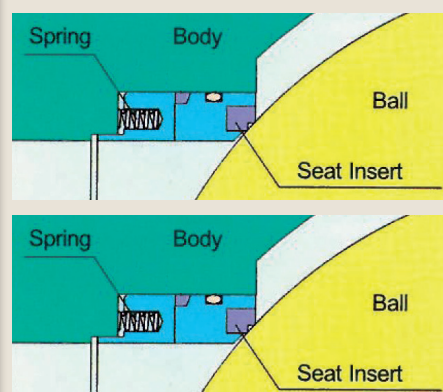
## Section drawing



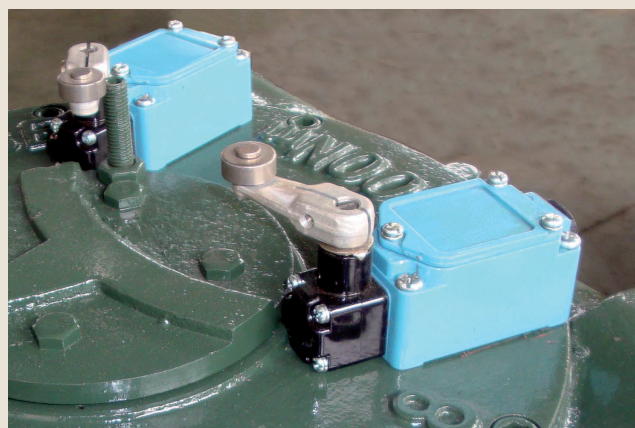
## Parts list

N°	Parts	Material **
1	Body	A216 WCB
2	Ball	A182 F 304
3	Fixed spindle	A182 F 304
4	"O" ring	Viton
5	Sliding bearing	P.T.F.E. + Pb
6	Seat	R.P.T.F.E.
7	Seat ring	A182 F 304
8	Spring	17-7PH
9	Bonnent	A216 - WCB
10	Packing	Graphite
11	Nut/Stud	A194-2H/A193 B7
12	Yoke	A216 - WCB
13	Key	1045
14	Stem	A182 F 304
15	Lug	A3
16	Adjustment ring	A150

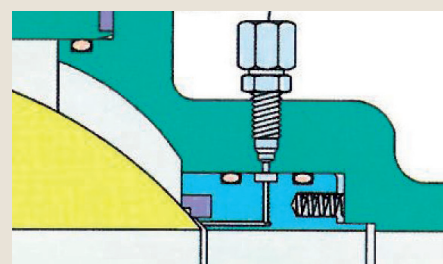
## Fire Safe Seat Sealing



Internal leakage prevention When seat insert, O ring and spacer are damaged in a fire, the line pressure and the seat preloaded spring push the seat metal lip onto the ball surface to cut off tie line fluid and prevent the internal leakage to reach the fire safe purpose. Besides, the seat graphite packing can prevent fluid leakage between the valve body and the seat.



Detail of limit switches

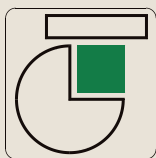


Detail of Injection fitting

\* Forged steel model/design : on request.

\*\* Materials are given for guidance only and are not contractual.

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# Top entry cast steel\* ball valve 150, 300, 600, 900 and 1500 lb Flange RF and RJ type

## Dimensional datas Class 150 lb

Bore	Gear	Size	A	H	Weight
	**	(in)	(mm)	(mm)	(kg)
Full		2	292	170	46
		3	356	210	83
		4	432	250	156
	**	6	559	265	256
	**	8	660	355	453
	**	10	787	385	622
	**	12	838	400	747
	**	14	889	450	959
	**	16	991	510	1220
	**	18	1092	565	1640
	**	20	1194	620	2118
	**	24	1397	680	2950
Reduced		2 x 1-1/2	292	165	41
		3 x 2	356	170	58
		4 x 3	432	210	104
		6 x 4	559	250	228
	**	8 x 6	660	265	320
	**	10 x 8	787	355	536
	**	12 x 10	838	385	685
	**	14 x 12	889	400	840
	**	16 x 14	991	450	1070
	**	18 x 16	1092	510	1430
	**	20 x 18	1194	565	1850
	**	24 x 20	1397	620	2450

\*\* Gear operated

## Dimensional datas Class 900 lb

Bore	Gear	Size	A	H	Weight
	**	(in)	(mm)	(mm)	(kg)
Full		2	368	190	60
		3	381	230	100
	**	4	457	270	204
	**	6	610	320	420
	**	8	737	375	644
	**	10	838	440	943
	**	12	965	498	1295
		2 x 1-1/2	368	182	54
Reduced		3 x 2	381	190	80
		4 x 3	457	230	148
	**	6 x 4	610	270	305
	**	8 x 6	737	320	552
	**	10 x 8	838	375	748
	**	12 x 10	965	440	1048

\*\* Gear operated

## Class 300 lb

Bore	Gear	Size	A	H	Weight
	**	(in)	(mm)	(mm)	(kg)
Full		2	292	170	49
		3	356	210	87
		4	432	250	164
	**	6	559	265	272
	**	8	660	355	479
	**	10	787	385	657
	**	12	838	400	783
	**	14	889	450	1007
	**	16	991	510	1281
	**	18	1092	565	1722
	**	20	1194	620	2224
	**	24	1397	680	3100
Reduced		2 x 1-1/2	292	165	44
		3 x 2	356	170	62
		4 x 3	432	210	110
		6 x 4	559	250	243
	**	8 x 6	660	265	343
	**	10 x 8	787	355	559
	**	12 x 10	838	385	725
	**	14 x 12	889	400	890
	**	16 x 14	991	450	1120
	**	18 x 16	1092	510	1480
	**	20 x 18	1194	565	1960
	**	24 x 20	1397	620	2650

\*\* Gear operated

## Class 1500 lb

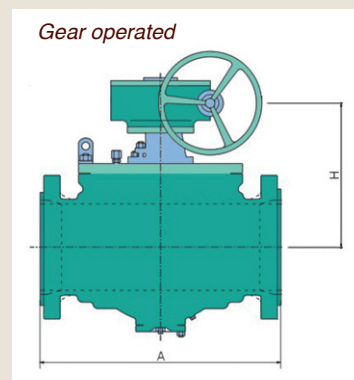
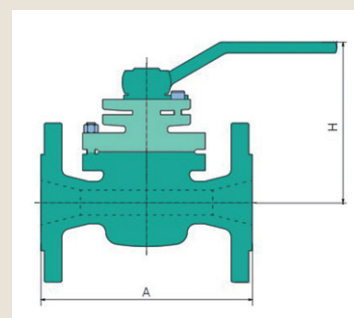
Bore	Gear	Size	A	H	Weight
	**	(in)	(mm)	(mm)	(kg)
Full		2	368	195	69
	**	3	470	233	133
	**	4	546	276	253
	**	6	705	324	667
	**	8	832	397	865
	**	10	991	462	1375
Reduced	**	12	1130	493	2175
		2 x 1-1/2	368	189	63
		3 x 2	470	195	95
	**	4 x 3	546	233	183
	**	6 x 4	705	276	359
	**	8 x 6	832	324	794
	**	10 x 8	991	397	1070
	**	12 x 10	1130	462	1541

\*\* Gear operated

## Class 600 lb

Bore	Gear	Size	A	H	Weight
	**	(in)	(mm)	(mm)	(kg)
Full		2	292	180	52
		3	356	220	92
		4	432	260	173
	**	6	559	275	285
	**	8	660	370	504
	**	10	787	398	680
Reduced	**	12	838	410	819
		2 x 1-1/2	292	174	46
		3 x 2	356	180	74
		4 x 3	432	220	120
		6 x 4	559	260	249
	**	8 x 6	660	275	380
	**	10 x 8	787	370	587
	**	12 x 10	838	398	752

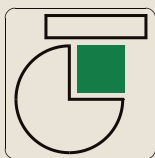
\*\* Gear operated



\* Forged steel model/design : on request.

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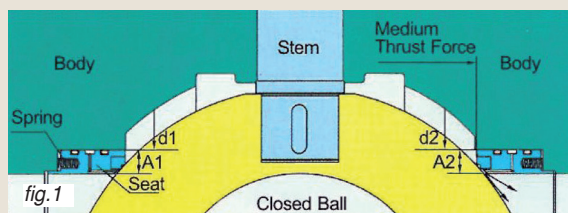


# Top entry cast steel\* ball valve 150, 300, 600, 900 and 1500 lb Flange RF and RJ type

## The effective sealing for valve seal

- The sealing for upstream seat. The seat ring can be moved slightly along the valve axis, the pressure of upstream line and the spring thrust force acted on the seat ring area (A1), it is caused the piston action when the pressure is over the area (d1), which pushed the seat ring tightly against the surface of ball, and resulting an effective seal for valve seat.

- The sealing for downstream seat. When the pressure in body cavity is lower than the downstream line and the thrust force, the net difference of pressure acted over the area (A2), it is caused the piston action when the pressure is over the area (d2), which pushed the seat ring tightly against the surface of ball, and resulting an effective seal for valve seat (fig.1).

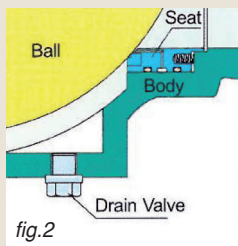
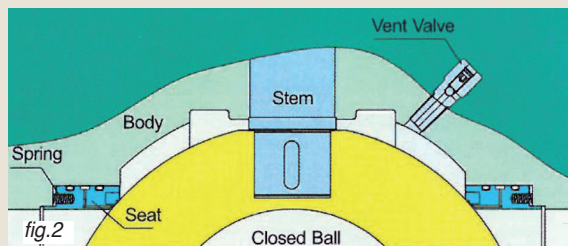


## Self relieving seat

When the body cavity pressure exceeds the downstream seat spring preloaded force, the differential force in the area (d2) pushes the downstream seat away from the ball, the body cavity pressure will automatically relieved. And then the seat returns to the ball under spring action (fig.1).

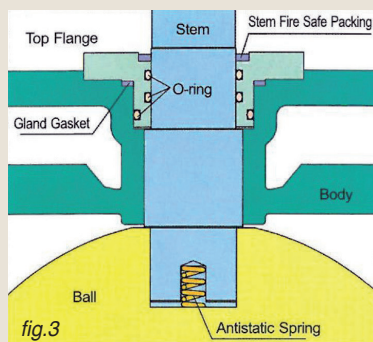
## Double block and bleed

When the ball is in the closed position, each seat of the ball valve can cut off the medium independently on the upstream and downstream side to realize double-block functions. The body cavity are isolated from each side of the valve, the body cavity pressure could be released through the vent valve (fig.2).



## Blow-out proof stem

The stem with integral T-type shoulder, supported by gland, which can be guaranteed not to be blow-out by the medium even if at abnormal risen pressure from the cavity (fig.3).



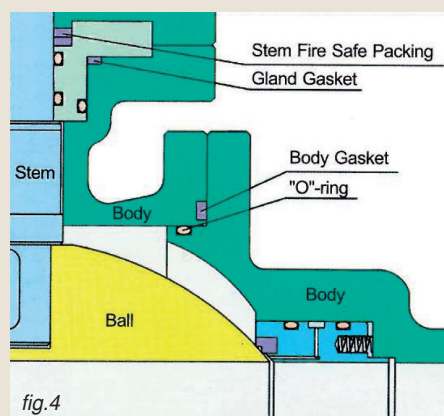
## Anti-static device

During turning of the stem to open or closing the valve, static electricity is easily caused by sparks generated by friction. Antistatic devices, assembled by a spring & a grounding plunger, which assure the electrical continuance between ball & stem and stem & body, to prevent the possible risk of fire or explosion (fig.3).

## Firesafe design

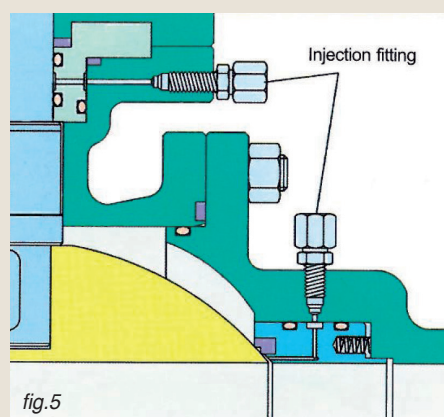
### External leakage prevention

A combination of O ring and graphite gasket on body & bonnet connection, body & gland connection, and stem & gland joint, can prevent the external leakage. When O rings are damaged after a fire, body gasket, gland gasket, and stem packing, it is still on the performance of sealing and prevents external fluid leakage (fig.4).



## Emergency sealant injection system

Trunnion mounted ball valves, special sealants could be injected through a sealant injection fittings which are located on the bonnet and the gland to obtain emergency sealing. In case of seat or stem O ring are damaged and leakage occurs by fire or other accidental. Fittings also internally installed a secondary check to provide backup sealing (fig.5).



\* Forged steel model/design : on request.