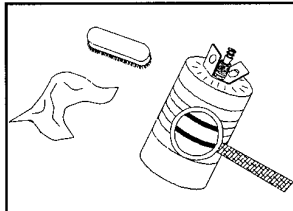




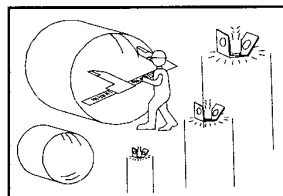
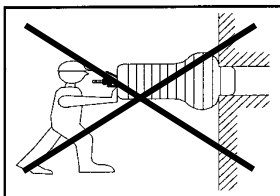
Sava Stoppers

General Installation Instructions

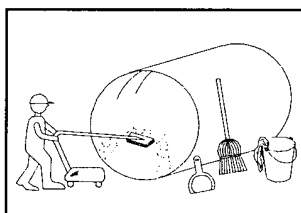
1. Before and after each use, clean the stopper and inspect for surface tears, cuts or any other damage. If cut or damaged do not use & contact Ant Hire



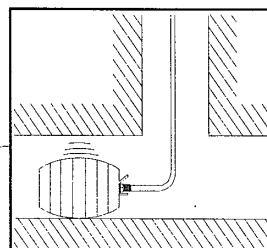
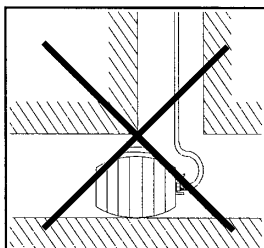
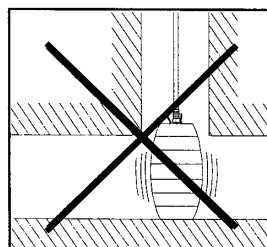
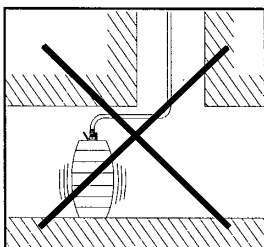
2. Check the internal pipe diameter. The internal pipe diameter must be within the stated operating range of the stopper.



3. Ensure the area of the pipe in which the stopper is to be inserted is clean and free of sharp edges and protrusions.



4. Insert the stopper lengthways into the pipe. The rubber body of the stopper must be completely inside the pipe.



Maximum Inflation Pressure 1.5 bar

Maximum Back Pressure 0.5 bar

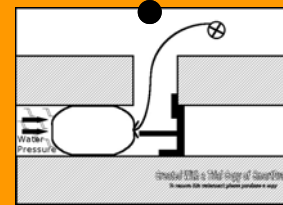
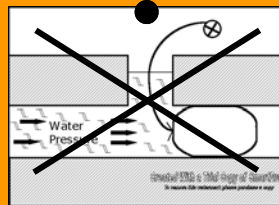
(5m head of water)

WARNING! The following instructions must be carried out as stated to avoid injury or damage to the equipment.

WARNING! In this application contact Ant Hire for suitable bracing

CORRECT APPLICATION

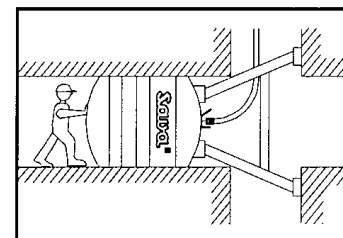
The stopper is braced against movement.



5. Connect the air inflation hose to the stopper inflation point and then to the inflation controller. Connect the inflation controller to the compressed air supply.

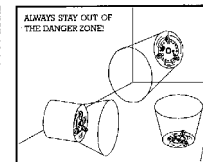
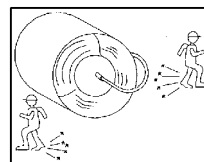
6. Inflate the stopper until the expanded rubber body of the stopper just touches the pipe surface around its entire circumference. At this stage do not inflate the stopper above 0.5 bar. Whilst inflating the stopper ensure the horizontal axis of the stopper is parallel to the pipe axis.

7. Brace the stopper against the expected back pressure or flow within the pipeline. The stopper must not be allowed to slide when back pressure is applied.



See table over page for pressures

8. Inflate the stopper from a safe distance ie if the stopper is in a manhole take the controller to the surface. Inflate the stopper to the maximum pressure of 1.5 bar.



9. Remove the inflation controller from the inflation hose. The inflation hose must remain attached to the stopper.



Pressure exerted on stopper (kgf) for every 1 metre depth/height of water behind stopper

PIPE DIAMETER mm

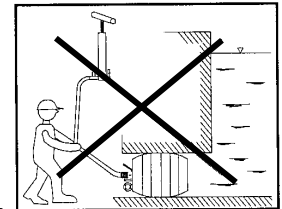
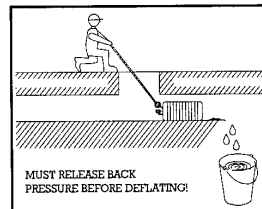
	100	150	225	300	375	450	500	525	600	675	700	750	800	900	1000	1200	1350	1400	1500
1	8	17	36	61	92	126	150	163	202	242	255	282	308	357	401	490	590	612	653
2	16	35	77	133	204	288	351	384	490	607	648	732	820	1006	1202	1615	1935	2041	2253
3	24	53	117	206	317	450	551	605	779	972	1040	1183	1333	1655	2003	2769	3395	3612	4056
4	32	71	158	278	430	612	751	825	1067	1337	1433	1634	1846	2304	2804	3923	4855	5182	5859
5	40	89	198	350	542	775	951	1046	1356	1702	1826	2084	2359	2953	3605	5076	6315	6753	7662
6	48	107	239	422	655	937	1152	1267	1644	2067	2218	2535	2872	3602	4407	6230	7776	8323	9464
7	56	125	279	494	768	1099	1352	1488	1933	2432	2611	2986	3384	4251	5208	7384	9236	9893	11267
8	64	143	320	566	880	1261	1552	1709	2221	2797	3003	3436	3897	4900	6009	8538	10696	11464	13070
9	72	161	360	638	993	1424	1753	1930	2509	3162	3396	3887	4410	5549	6810	9691	12156	13034	14872
10	80	179	401	710	1106	1586	1953	2150	2798	3527	3789	4338	4923	6198	7611	10845	13616	14604	16675

DEPTH OF WATER IN METRES

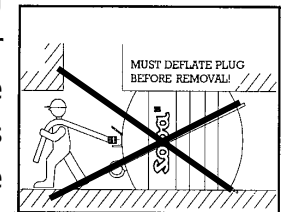
The back pressure is defined as the height of water behind the stopper: 5m = 0.5bar 10m = 1 bar (Measured from the invert of the pipe)

10. Every 5 hours check the stopper pressure by re-connecting the inflation controller. Maintain the inflation pressure to 1.5 bar, then disconnect inflation controller as before.

11. Always release the back pressure first before deflating the stoppers. The pressure in the stopper is released by re-connecting the inflation controller to the inflation hose and then unscrewing the knurled ring at the top of the relief valve.



12. If it is **not** possible to release the back pressure before deflating the stopper, follow the next instruction carefully. Deflate the stopper slowly whilst the bracing is still in place to allow the back pressure behind the stopper to be released. When all the back pressure has been released, deflate the stopper completely and then remove the bracing. The stopper can now be taken out of the pipe.



Important!

- Always use the stopper lifting eyes for lifting, lowering and pulling the stoppers into position. Never use for holding the stopper against back pressure
- Always brace stopper appropriately when people are working down stream of the stopper.
- Keep stoppers out of direct sunlight at all times.
- Never clean with solvents, hydrocarbons and other aggressive agents as the plug can be damaged or even destroyed
- Do not try to repair damaged stoppers or inflation controller equipment.

If you have any queries regarding the operation of this equipment, please contact Ant Hire on the number below.

