

FOUNDATIONS

A solid concrete block is essential to withstand the vibration caused by the movement of the impetus valve. The ram at all times must be below the source of supply (see Diagram No. 1).

DRIVE PIPE

Use the correct size pipe specified in our Hydraulic Ram Table relevant to the size ram being installed. Avoid any bends or curves in the drive pipe. Metal or rigid P.V.C. pipe is recommended. This line must be direct from the source of supply to the ram. Under no circumstances must the velocity of the water flowing down this pipe be restricted. The length of drive pipe must be at least three-quarters the height of the elevation of delivery pipe (refer Hydraulic Ram Table). A good type of strainer is essential on the end of the drive pipe at the source of supply, eliminating any possible risk of foreign matter entering the ram.

The delivery pipe should be installed in a manner similar to the delivery pipe from a pump. Should this pipe be over 1,000ft (307m) long, use a larger size pipe than that shown in the Table. It is advisable to fit the Danks Snifting Plug (supplied with each ram) in the drive pipe as close to the ram as possible to prevent the air dome becoming water-logged and to maintain a constant air volume in the dome (refer to Diagram No. 1 for method of installation).

STARTING HYDRAULIC RAM IN MOTION

After the installation has been completed, set impetus valve to longest stroke then adjust to suit the local conditions. The stroke of the valve is regulated by the adjusting nut No. 30. Loosen the adjusting lock nut No. 31 and by either screwing the adjusting nut up or down, the length of stroke is altered. Also the impetus valve is so designed that provision is made on the stem by means of two flanged nuts, Nos. 28 and 29, to locate lead washers used as counterweights to compensate for the varying conditions encountered in installation. For example, head height and drive height vary in each and every installation. As the valve compensation cannot be pre-set at the factory, this is left to the person responsible for the installation of the hydraulic ram. With the addition of these lead washers, the valve is then balanced to operate at maximum efficiency under its condition.

Any hydraulic ram working almost to its maximum capacity should be balanced by the above method to prevent any undue knocking, which, at all times, is injurious to the valve.

To put the ram in motion, it is necessary to hold the impetus valve down for a few seconds, allowing the water to run to waste; then allow the valve to rise, shutting off the flow of water. Possibly, it will be necessary to repeat this operation several times before the ram will take over automatically.

HYDRAULIC RAM TABLE (Volumes & weights approx.)

Ram No.	PIPES		Galls/Litres per min. required to operate Ram		Discharge Capacity per hour		Weight when crated	
	Drive	Discharge	Galls.	Litres	Galls.	Litres	lbs.	kgs.
3	1" 25mm	1/2" 15mm	1 1/4 - 4	6 - 18	10- 20	45- 91	55	25
4	1 1/4" 32mm	1/2" 15mm	3 - 7	14- 32	15- 35	68- 159	79	35
5	2" 50mm	3/4" 20mm	6 - 14	27- 64	30- 70	136- 318	119	54
6	2 1/2" 65mm	1" 25mm	12 - 25	55-114	60-125	273- 568	198	90
7	3" 80mm	1 1/2" 40mm	20 - 40	91-182	100-200	455- 909	377	171
10	4" 100mm	2" 50mm	25 -100	114-455	125-500	568-2273	851	386

Minimum Fall from Supply to Ram		Height Water may be Elevated		Length of Drive Pipe	
Feet	Metres (approx.)	Feet	Metres (approx.)	Feet	Metres (approx.)
2	.6	4	1.2	12	3.6
2	.6	6	1.8	12	3.6
2	.6	8	2.4	12	3.6
3	.9	15	4.5	15	4.5
4	1.2	25	7.6	20	6
5	1.5	35	10.6	30	9.1
6	1.8	48	14.6	40	12.1
7	2.1	63	19.2	50	15.2
8	2.4	80	24.3	60	18.2
10	3	100	30.4	75	22.8
12	3.6	120	36.4	95	28.9
14	4.2	140	42.4	110	33.5
16	4.8	160	48.5	125	38
18	5.4	180	54.5	146	44.4
20	6	200	60.8	160	48.5