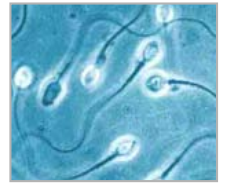


LIQUID NITROGEN CONTAINERS

ANIMAL INSEMINATION

Artificial insemination is an assisted reproductive technique which consists of spermatozoa being placed in the reproductive tract of a female. Evidence of artificial fertilisation dates back to the beginning of the twentieth century, yet the technique became increasingly popular during the second half of the last century when livestock was commonly impregnated using this procedure.

A significant step during the process of artificial insemination (especially with bovines) is the freezing of sperm. This procedure has permitted an easier and more widespread practice of artificial insemination and therefore a development in genetic improvement in various sectors. After 'collection', semen is placed into straws and subsequently frozen. The straws are then stored in liquid nitrogen at -196 °C in containers with specially made canisters. Different techniques are used in order to thaw semen. Our Thaw Unit is highly recommended. Our company offers a range of containers from 1 litre to 50 litres suitable for both transport and storage.



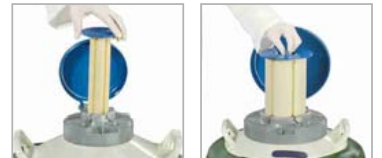
CHOICE OF CONTAINER IN THIS SECTOR IS DETERMINED BY TWO FACTORS:

1- STORAGE CAPACITY OF SEMEN IN STRAWS

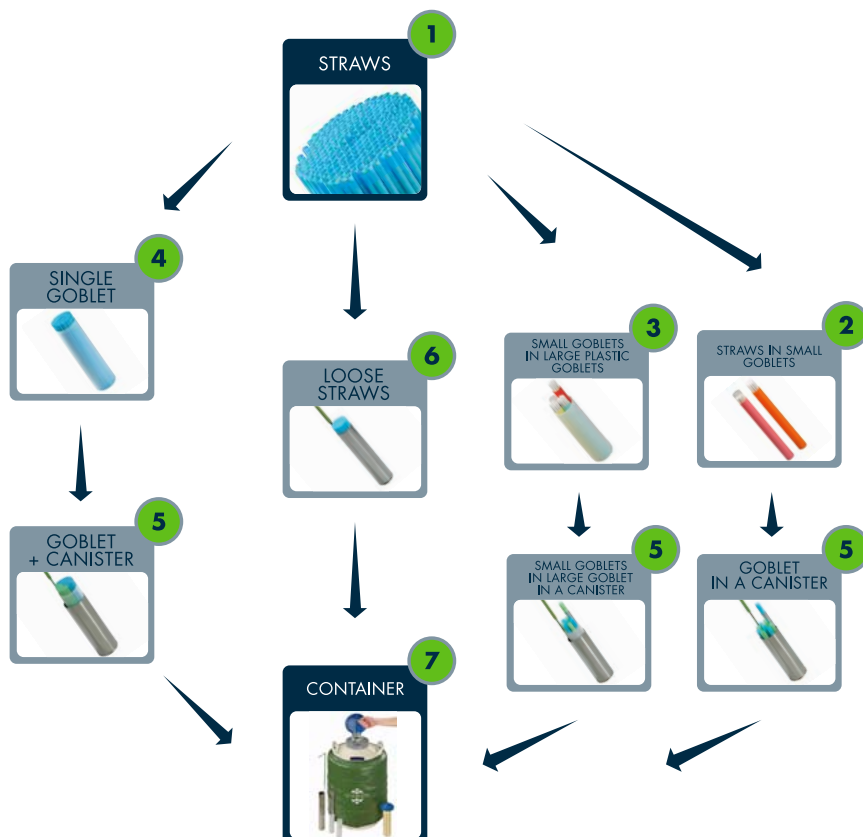
A larger neck diameter on the container is necessary for increased storage capacity. The containers more commonly used in European livestock breeding (medium-small) have a neck diameter which does not exceed 50 mm.

2- HOLDING TIME OF LIQUID NITROGEN INSIDE THE CONTAINER

Holding time is chosen in relation to the minor or major difficulties of tracing liquid nitrogen. The liquid nitrogen supply network in Italy is vast and it is for this reason that the 20 litre container is the most commonly used in this sector.

Capacity

Holding Time


POSSIBLE COMBINATIONS



TYPE OF CANISTER

> **single:** facilitates the selection of semen inside the container yet limits storage capacity.



> **double:** increases storage capacity but does not facilitate the selection of semen.



> THAW UNIT



> MEASURING STICK



> THERMOMETER

TECHNICAL SPECIFICATIONS

> STORAGE AND TRANSPORT OF SEMEN AND BIOLOGICAL SAMPLES

TRANSPORT							STORAGE	TRANSPORT & STORAGE				
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		MEDIUM	--	MEDIUM	MEDIUM	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	HIGH	HIGH	HIGH
Capacity of Stored Straws		MEDIUM	--	MEDIUM	MEDIUM	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	HIGH	HIGH	HIGH
Static Holding Time		LOW	LOW	LOW	MEDIUM	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
STORAGE CAPACITY													
In Canister with no Large Goblet													
0.50 ml loose straws	1 level	750		750	750		2580	1494	750	750	2580		
0.25 ml loose Straws	1 level	1500		1500	1500		5280	3456	1500	1500	5280		
0.50 ml Straws divided into Small Goblets	1 level	420		420	420		1500	756	432	432	1500		
0.25 ml Straws divided into Small Goblets	1 level	1020		1020	1020		3420	1700	1020	1020	3390		
In Canisters with Plastic Goblet													
0.50 ml loose Straws	1 level								600	600	2400		
	2 level					1200			1200	1200	4800	11340	11340
0.25 ml loose Straws	1 level								1200	1200	4800		
	2 level					2400			2400	2400	9600	22680	22680
0.50 ml Straws divided into small Goblets	1 level								360	360	1368		
	2 level					720			720	720	2736	6180	6180
0.25 ml Straws divided into small Goblets	1 level								810	810	3078		
	2 level					1620			1620	1620	6156	14580	14580
Canisters Levels		6		6	6	6	6	9	6	6	6	6	6
Level(s)		1		1	1	2	1	1	1-2	1-2	1-2	2	2
Canister Diameter (mm)		39		39	39	39	70	43	39	39	70	100	100
Plastic Straw Diameter (mm)		35		35	35	35	68	40	35	35	68	98	98
Consumption													
Capacity (L)		3	5	6	10	10	12	12	20	35	35	35	47
Neck Diameter (mm)		50	200	50	50	50	90	90	50	50	90	125	127
Static Evaporation Loss Mass (L/d)		0,13	1,67	0,19	0,1	0,1	0,22	0,22	0,10	0,12	0,17	0,3	0,33
Static Holding Time (d)		16	3	32	100	100	55	55	200	320	185	116	139
Working Holding Time (d)		6	1	12	60	60	32	32	140	180	110	80	100
Container Measurements													
Capacity (L)		3	5	6	10	10	12	12	20	35	35	35	47
Height (mm)		425	325	445	530	600	490	490	655	670	725	690	675
Outer Diameter (mm)		224	287	287	303	287	405	406	409	473	473	473	500
Empty Weight (Kg)		3,4	5,3	5	6,2	6,8	7,2	7,5	11,4	14,5	16,1	15,5	19,57
Full Weight (Kg)		5,9	10	9,9	14,3	15,7	17,1	17,5	27,6	43,2	44,8	44,2	57

NOTES

00 - 00 - yds refers to litres & neck diameter - e.g. 1-30, 1 refers to capacity (L), 30 to neck diameter (mm)

Static Holding Time - Static Holding Time refers to the level of nitrogen inside the container given optimal conditions

Working Holding Time - Working Holding Time refers to the average duration of liquid nitrogen inside the container during working conditions

Checking Holding Time - it is recommended to check the nitrogen level inside the container once a week using a suitable measuring stick

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