

Safety Precautions

- Read the operating instructions carefully before use. Keep available for future reference
- Observe the manufacturer's recommendations
- Before each use, check instrument for perfect working condition
- Prime, rinse and dry the instrument carefully after each use
- Never try to separate blocked parts by using force
- Repeat use of the same needle may carry over contaminations to other animals
- Instrument manufacturer cannot be made responsible for needle breakage during use
- Mind possible hand fatigue and its medical consequences
- Do not use syringe for purposes other than intended for
- A saline environment may hasten replacement of instruments parts
- Use only original spare parts

Description

Congratulation for buying a fine quality Indian product. The DaVinci self-refilling syringes with spring loaded plunger and three-way valve system are intended for mass vaccination of poultry, swine, cattle, fish and small laboratory animals. All components can be autoclaved fully assembled at 121° C (20 minutes). These automatic syringes allow trouble free injection of volumes as small as 0.05 mL, various water or oil based vaccines or difficult heavy iron solutions with an excellent reproducibility. Valves are fitted with stainless steel balls for improved reliability. Volume is easily set with a micrometric screw and a lock nut. The graduated ground glass barrel is interchangeable ranging from 0.5ml to 20 ml. Supplied with feed tubing, vial holder (except 20 mL supplied with feed tube only), they can be used for any mass injection campaign.

Veterinary needles and drenchers to be ordered separately. Ask for more details about our large selection of Luer Lock stainless steel needles

Holding The Syringe

Ergonomic, user friendly handle, perfect balance and smooth plunger travel assure fatigue-free operation even during mass vaccinations at rates of up to 800 injections per hour. To operate place hand on handle and move plunger with the palm of the hand. To change position of the syringe handle (41), untighten screw (44), turn syringe body to the desired position and retighten screw (44). The handle of the 20 ml model can be moved forward & backward on socket (3), Fig 1



Fig 1

Operation

All self-refilling syringes are supplied ready to use, no assembling or preparation is required.

DaVinci self-refilling syringe with feed tubing (70 Series): To aspirate liquid from a bottle with rubber stopper carried at the belt, connect one end of tube (23) to the syringe. Puncture bottle cap with feed needle (26) and vent cannula (25). Connect feed tube to the feed needle. To aspirate liquid from an open vial, connect sinker (24) to the end of feed tube (23) and immerse in liquid (note: vent cannula (25) to be used as sinker on 20 ml models). to nozzle (14) (select model).

DaVinci Self-refilling syringe with vial holder (71 Series): To draw liquid out of an original vaccine bottle with septum closure, remove lock (55), attach vaccine vial (penicillin neck, Ø 20mm) to intake needle (52), slide lock in again. Rubber washer (56) improves tightness. Disassemble vial holder by removing lock (55) and ring (54). Vial holder fits models up to 10 ml only.

Volume Setting

Loosen locking nut (4) Fig 2(a) & adjust plunger edge to the desired volume graduation on glass barrel by turning socket (3) Fig 2(b). Tighten locking nut (4) Fig 2(c) in order to prevent any volume alteration during plunger activation

Priming

Prime valve system by activating plunger until liquid fills up the syringe Fig 3(a). Set syringes of small capacity on largest volume to prime. To expel remaining air bubbles, hold the syringe upright and give the plunger a few short strokes. The liquid lost during priming may be collected in a clean recipient and returned to the reservoir. Fig 3(b)

End of Dosing

When dosing is completed, remove feed sources and activate plunger several times in order to eliminate any residual liquid Fig 4 (a). Rinse, disassemble, clean and dry the instrument parts according to the instructions in the "maintenance" Fig 4(b) chapter. Never store a syringe without prior priming, cleaning and drying.

Maintenance Cleaning

The DaVinci self-refilling syringe and accessories must be carefully cleaned and dried after each use. Therefore, aspirate an appropriate cleaning solution (water or detergent) and rinse thoroughly. Activate the syringe several times with air to remove residual liquid before disassembling.

Disassembling

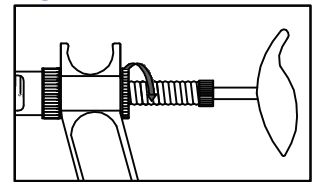
Remove needle, tubing and/or vial holder. Hold handle (41) and unscrew casing (8) in order to access the glass barrel (7). Push rod (1) to free plunger (6). Unscrew aspiration (50) and dispensing valves (14). Dry the valve assembly (seat, ball), syringe body, barrel and plunger before reassembling and storing. Using on a regular basis the ABF Premium lubricant after cleaning/drying will protect the plunger and extend the syringe life span.

See Fig 5 (a) & Fig 5 (b)

Trouble shooting

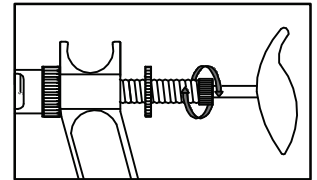
A clogged aspiration valve can easily be fixed up by gently detaching the ball from the valve seat. Fig 5 (a) & (b) Therefore, introduce a small pin into the intake valve opening and push until the ball moves. If this operation is not possible, immerse the valve in hot water containing an appropriate detergent and operate the plunger. Make sure the parts are rinsed thoroughly and dried completely. To prevent a mis-positioning of aspiration valve ball, do not release spring loaded plunger rod abruptly while

Fig 2(a)



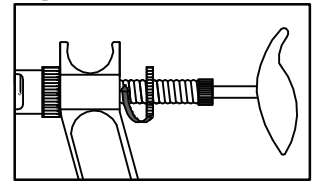
Unscrew Locking Nut.

Fig 2(b)



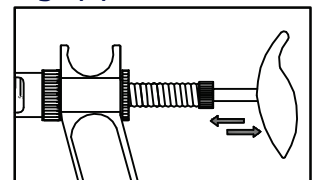
Adjust plunger to desired volume.

Fig 2(c)



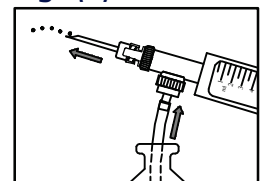
Tighten locking nut.

Fig 3(a)



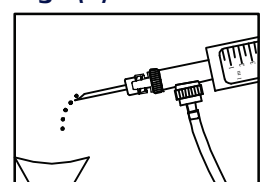
Activate handle until liquid reaches needle.

Fig 3(b)



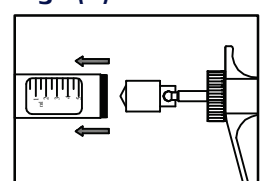
Expell liquid to eliminate any air bubbles.

Fig 4(a)



Rinse with warm water and purge completely

Fig 4(b)



Unscrew body and remove. In case of clogged valves

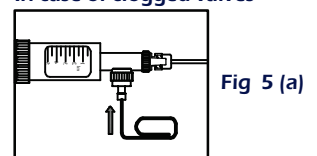
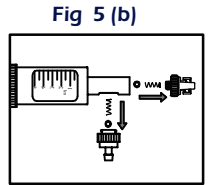


Fig 5 (a)

If insufficient, disassemble valves & clean.

Davinci Self Refilling Syringe

aspirating. During the distribution, a thin film of liquid between the plunger and the barrel guarantees smooth plunger movement and tightness. After long series of injections, some liquid may be found in the back of the plunger and should be removed when vaccination or dosing is completed. Only use original spare parts to replace any damaged components of the syringe.



If insufficient, disassemble valves & clean.

Sterilization

Warning: optional PVC protection sleeve on glass barrel and vial holder rubber washer are not autoclavable. If used, remove them before autoclaving the instrument. The self-refilling syringe can be autoclaved fully assembled at 121° C for 20 minutes. Do not sterilize an instrument that has not previously been primed, cleaned and dried. Risk of glass breakage during autoclaving is reduced by slightly untightening the syringe body. Retighten of all connections before each use. Correct autoclaving and resulting sterility are the responsibility of the user.

Materials

All parts in contact with the liquid are made of carefully selected, chemically inert materials:

- Feed tubing : Silicone
- Barrel :Glass
- Plunger :Stainless Steel
- Barrel washer : FPM
- Valve washers : PTFE
- Valve springs & balls : Stainless Steel
- Sinkers & aspiration cannula : Nickel/Chrome plated brass

Performance & Ordering information Package contents

DaVinci Self-refilling syringe with Feed Tube 70 Series Supply includes Metal body, Luer lock nozzle, Plunger, Glass barrel, Integrated valve system, Feed Tube, Sinkers valve, Feed cannula, Vent cannula, Spare kit (Springs, Valve balls & Washers), Detailed operating manual, and Viscous solution spring (only 2ml & 5ml)

DaVinci Self-refilling syringe with Feed Tube-Utility 70 Series Supply includes Metal body, Luer lock nozzle, Plunger, Glass barrel, Integrated valve system, Feed Tube, Feed cannula, Spare kit (Springs, Valve balls & Washers), Detailed operating manual, & reusable needle.

DaVinci Self-refilling syringe with Vial Holder 71 Series Supply includes Metal body, Luer lock nozzle, Plunger, Glass barrel, Integrated valve system, Vial holder set, Vials, Locking ring, Spare kit (Springs, Valve balls & Washers), Detailed operating manual, and Viscous solution spring(only 2ml & 5ml)

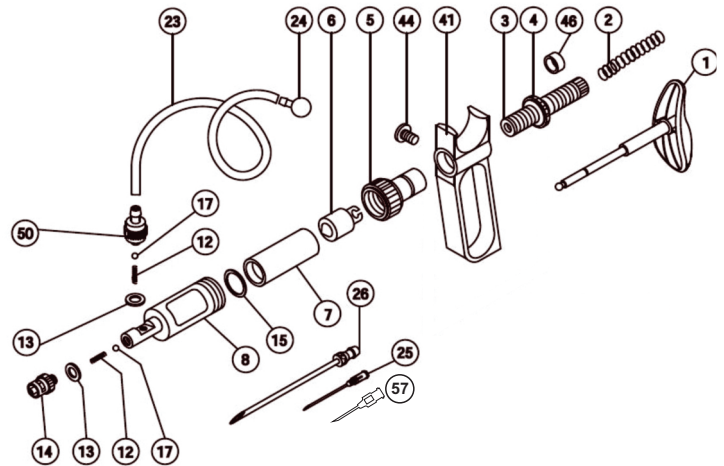
Warranty

The DaVinci self-refilling syringe is guaranteed for a period of one year against any manufacturing or material defect. Cases due to non-respect of manufacturer's instructions are excluded from the warranty. Glass barrel breakage or damages to the plunger due to improper handling or cleaning are not covered by the warranty. Should regular maintenance not eliminate a detected defect, return instrument to the dealer from whom it was purchased, after having obtained a return authorization. Decontaminate instrument prior to its return

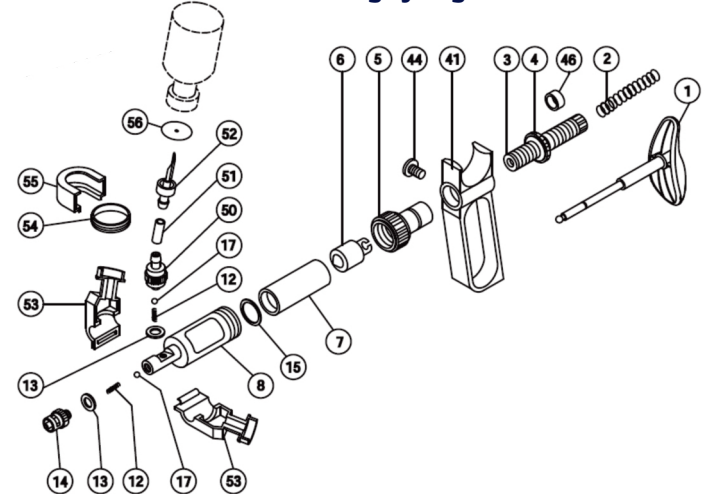
Spare parts

- | | |
|----------------------------------|---------------------------------|
| 1. Piston rod | 25. Vent cannula |
| 2. Spring | 26. Feed needle |
| 3. Socket | 41. Handle |
| 4. Nut | 44. Screw |
| 5. Cap | 46. PTFE sleeve |
| 6. Piston | 48. Hand piece (287) |
| 7. Barrel | 50. Intake valve |
| 8. Casing | 51. Connecting tube |
| 12. Spring | 52. Intake needle |
| 13. Washer | 53. Vial holder body (2 pieces) |
| 14. Nozzle valve | 54. Ring, vial holder |
| 15. Barrel washer | 55. Lock, vial holder |
| 17. Valve ball | 56. Rubber washer |
| 23. Tubing | 57. Reusable Needle |
| 24. Sinkers (except 20 ml model) | |

DaVinci Self-Refilling Syringe 70 series



DaVinci Self-Refilling Syringe 71 series



DaVinci Feed Tube Set - 70 Series

Catalog No	Capacity	Description	Graduation
70-02-23-29	0.5ml	0.5ml, DaVinci Feed Tube Set	0.05ml
70-04-23-29	1ml	1ml, DaVinci Feed Tube Set	0.05ml
70-05-23-29	2ml	2ml, DaVinci Feed Tube Set	0.1ml
70-08-23-29	5ml	5ml, DaVinci Feed Tube Set	0.25ml
70-09-23-29	10ml	10ml, DaVinci Feed Tube Set	1ml
70-10-23-29	20ml	20ml, DaVinci Feed Tube Set	2ml

DaVinci Feed Tube Set - Utility - 70 Series

Catalog No	Capacity	Description	Graduation
70-02-22-29	0.5ml	0.5ml, DaVinci Feed Tube Set-Utility	0.05ml

Best Suited for Poultry & Mass Vaccination Programs

DaVinci Vial Holder Set - 71 Series

Catalog No	Capacity	Description	Graduation
71-02-23-30	0.5ml	0.5ml, DaVinci Vial Holder Set	0.05ml
71-04-23-30	1ml	1ml, DaVinci Vial Holder Set	0.05ml
71-05-23-30	2ml	2ml, DaVinci Vial Holder Set	0.1ml
71-08-23-30	5ml	5ml, DaVinci Vial Holder Set	0.25ml
71-09-23-30	10ml	10ml, DaVinci Vial Holder Set	1ml

DaVinci Glass Barrel

Capacity	Catalog No.	Pack Size
0.5ml	75-02-00-50	Each
1ml	75-04-00-50	Each
2ml	75-05-00-50	Each
5ml	75-08-00-50	Each
10ml	75-09-00-50	Each
20ml	75-10-00-50	Each

DaVinci Spare Kit

Capacity	Catalog No.	Pack Size
0.5ml	75-02-00-45	Each
1ml	75-04-00-45	Each
2ml	75-05-00-45	Each
5ml	75-08-00-45	Each
10ml	75-09-00-45	Each
20ml	75-10-00-45	Each

DaVinci Feed Tubes

Capacity	Catalog No.	Pack Size
0.5-10ml	75-45-00-46	1mtr
0.5-10ml	75-45-00-47	3 x 1mtr
0.5-10ml	75-45-00-48	10mtr
20ml	75-45-00-49	1mtr

DaVinci Cannulas

Capacity	Catalog No.	Pack Size
0.5-5ml	75-38-44-35	Each
10ml	75-31-44-35	Each

Long feed Cannulas

Capacity	Catalog No.	Pack Size
0.5-10ml	75-31-49-35	Each

* Also Available Range of Reusable Needles