



Gravity Fed Bottle Filler

USER MANUAL AND MAINTENANCE



Index

	Description	Pag		Description	Pag
	ID	1	6	FILLING	3
	INFORMATION/COMPLIANCE	1	7	CLEANING & MAINTENANCE	4
	CONVENTIONAL SIGNS	2	8	TROUBLESHOOTING	5
	TABLE TECNIC Access/Charges	2	TAB2	ADJUST SCHEME. LIV.	6
1	MACHINE DESCRIPTION	2	TAB1	SPECIAL SCHEMA	7
2	FORECAST and NON-FORECAST	2	TAB1a-f	PART. LIST	8-9
3	MOVEMENT - UNPACKING	2	TAB1i	DETACHED NOTATIONS LIST	9
4	WORK-ABBIGLIAM-BOTTIG	3			
5	GENERAL NORMS MESSA TO	3			

CONVENTIONAL SIGNALS



DANGER: **Injuries Can Occur**



MOVEMENT DANGER: **Injuries Can Occur**



DANGEROUS AREA : **Injuries Can Occur**

WARRANTY

The warranty of our products lasts 12 months from the date of shipment of the goods, accompanied by Cru Systems receipt. The warranty recognizes the free replacement of parts or products sold with proven manufacturing defects.

The company reserves the right to assess with its technicians whether the part or product has been properly installed and to verify the exact methods of use. Products to be repaired and/or replaced will have to be shipped to Cru Systems for inspection. If parts have mfg. defects, Cru Systems will bear the cost of returning the product back to the customer.

No costs will be incurred for repairs carried out by third parties, except as a result of agreements Cru Systems confirmed in writing. The warranty is automatically voided in the following cases:

- Misuse of the product
- Repairs made by unauthorized personnel
- Use of non-genuine parts
- Electrical installations carried out by non-specialized personnel

TECHNICAL TABLE

Art	Denom.	Regulators D14mm	Yield	Weights and Measurements in cm					
				COMPLETE MACHINE				Bottle D hole Min 1.8cm Max 2.7cm	
		Nr	LITRES/ORA	Kg.	Mon	Width	High	D Max	H Max
10300	RI2M, Inn	2	260	16	45	50	155	15.5	40
10302	RI3M	3	390	16.5					
10301	RI4M	4 th	520	17.5					
10304	RI6M	6 th	780	26 th	60	60	160	10.5	
10303	RI8M	8	1040	28 th					
Detached Equipment List (bag within Tub 68)									
	Group by part per pump customer pos 42							N1 pc	
80212	25mm-mounted thickness kit			Pos 61-62-63-64-65				1 pc Dispenser	
80220	Kit seals and Ring seal			Pos.59(2pz)				1 pc Dispenser	

Mandatory surcharges for filling food liquids

90301	INOX taps for RI2-3-4M
90302	INOX taps for RI6-8 M
90330	In OX float replaces supplied float (No.1pz for 2-3-4) (No.2pz for 6-8)

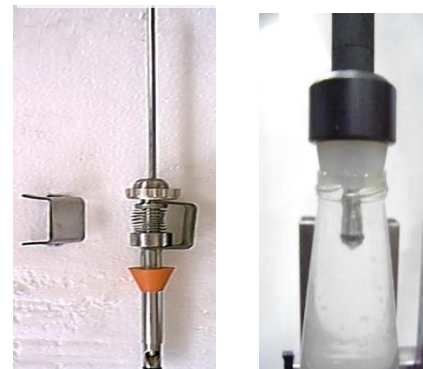
Increases

90340	Transformation for filling 2dame 5lt(d200mm)RI 2-3-4 nozzle.
90341	Transformation for filling 4dame 5l (d200mm) for RI 6-8 nozzle.
90326	Special dispenser for long and narrow necks (central air discharge) d 12
90343	Tilting support for PET bottles and plastic canisters (send sample) No.1 pc.
90345	Equipment for filling satin hot liquids 1pz.

On demand: filler accessories

80208	Spout dispenser d12 for bottles c/hole 14.5mm (lh 80 ref water)
80200	D16 dispenser spout for c/hole bottles 21 mm (lh400 ref water)
33818	Cone d40mm for top hole containers from 29 to 38mm

Fig.2b 56232



80151	Silicon E design cone (fig.2.c)
56232	Open dispenser lock bracket 1pz

CHAPTER 1: DESCRIPTION OF THE MACHINE

This machine allows you to fill bottles with flat liquid when placing supply at a height slightly higher than the tank.

CHAPTER 2: SECURITY GENERAL WARNING

Before the equipment can be put into operation, the user must be able to perform all the operations described in this manual with competence and in total safety. Keep out of children's reach at all times.

- TO BE USED WITHIN TEMPERATURES -20 TO 90 DEGREES CELSIUS
- DO NOT USE MACHINE TO FILL OR TRANSPORT FLAMMABLE LIQUIDS
- DO NOT USE MACHINE IN AN EXPLOSIVE ENVIRONMENT
- DO NOT USE MACHINE WITH LIQUIDS CONSIDERED HAZARDOUS BY CONTACT OR INHALATION

CHAPTER 3: MATERIALS

- This Machine is designed to fill bottles by gravity to consistent, pre-determined level. Bottle material must be vetted by manufacturer to be deemed compatible with this machine.
- Please ensure that all liquids are compatible with AISI 304 stainless steel (18/10) as they come in contact with both the tank and dispensers. They must also be compatible with the tap material and all float mechanics.

CHAPTER 4: UNPACKING

- When removing machine from packaging, take care to prevent damage to the machine. Remove plastic protection.
- Read all directional indications on machine and do not flip.
- Dispose of all packaging material in designated recycle/trash containers.
- **To prevent injury, do not leave plastic bags within children's reach.**
- If damage is discovered due to transport, immediately make the transporter aware and notate all damage on claim documentation filed with the transporter.
- The manufacturer is not liable for transport damage.

CHAPTER 5: WORK AREA

Workspace Surrounding Machine

- Must comply with all legal requirements for treated product. Make sure foot support is flat and that environment is well lit. The sides and front of machine should be left completely clear for a radius of at least 1.5 meters to accommodate bottles (130 liters/hour) during production.
- In order to work comfortably and safely, an adequate number of empty bottles should be placed "upstream".
- A large support table should then be set up in such a way as to avoid long and/or continuous movements as you place filled bottles that are to be capped/corked.

Bottles to be Filled

- The vessels must have a smooth, round mouth and be without defects and/or cracks to allow minimum air passage. For diameters see bottle technical table. The bottle that you want to fill must be divided by height. Bottles cannot be filled with different heights at the same time.

Clothing

- To protect against accidental bottle breakage, the operator's clothing should include gloves, a long heavy apron and closed toed, anti-slip shoes.

CHAPTER 6: GENERAL SET-UP

Plumbing Connection

- Connect machine to standard 15-16mm diameter tubing for standard machine or 19mm for machines with stainless steel fittings.
- Attach clamps to tube fittings supplied. Use plastic and/or metal spiral tubes. 5 meters maximum length is recommended.
- Set Bottle Fill Level. See fig. 3a-b-c-d-e-f
- Loosen the two Thumb Screws, Pos67c, to release back support. Move this away from drip tray of Storage Tank, pos. 63, by pushing it downwards away from the bottle. Position one of the Nozzles into a vertical position.
- Take bottle to be filled and place it inside the Sealing Cone, fig3a. Do not push up towards the top. The measurement of L, fig3a A or L1, fig3a B, will correspond to the filling level of the bottle.

- Pull the cone (60) downwards, if you want to increase the quantity being filled.
- Push the Cone (60) upwards if you want to reduce the quantity being filled.
- To prevent upward flow in the Cone 60, fit the cut rubber shims, measuring 3, 5, 12 and 5, 20, 25 mm (as supplied), in the grey area of the filling unit, pos. 61, 62, 63, 64, 65, respectively.
- Push the bottle upwards by about 20mm from the B/F, which is being filled, until the two mouths, the liquid inlet and the air outlet are all completely uncovered.
- Stop at this position and simultaneously pull the Drip Tray upwards, fig.3b CD until the lower Supporting Tube 67b touches the bottle.
- Allow the Drip Tray to automatically block any outflow at the bottom by means of the Lock Lever 67d.
- Place bottle vertically under dispenser. Rest back Support Bar, pos 67a on bottle and check that it is parallel to the fixed bar. Tighten the screws to lock the wings, 67c.
- Check the set-up of the remaining nozzles to be sure that they match the rubber shims of the first nozzle prepared.

ADJUSTING THE FILL LEVEL

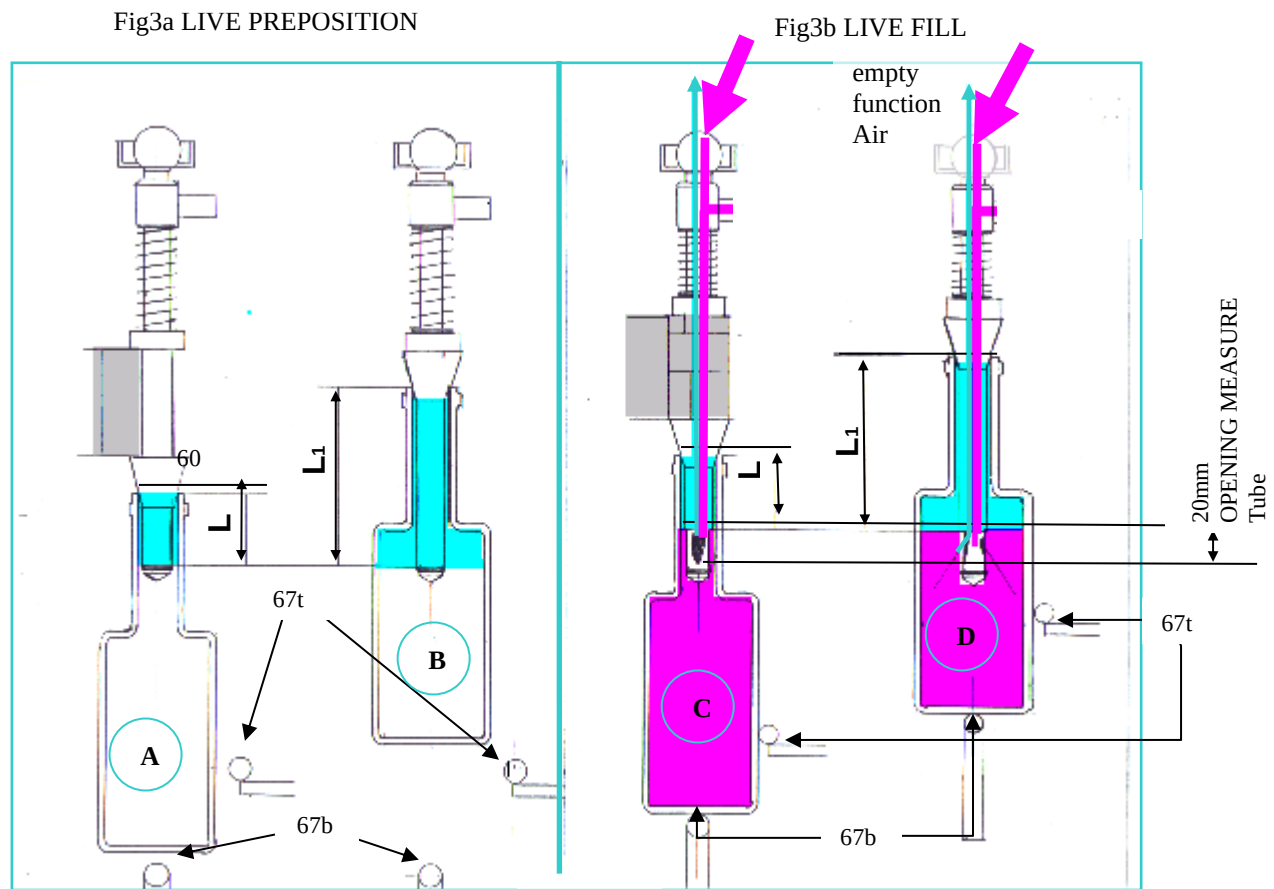
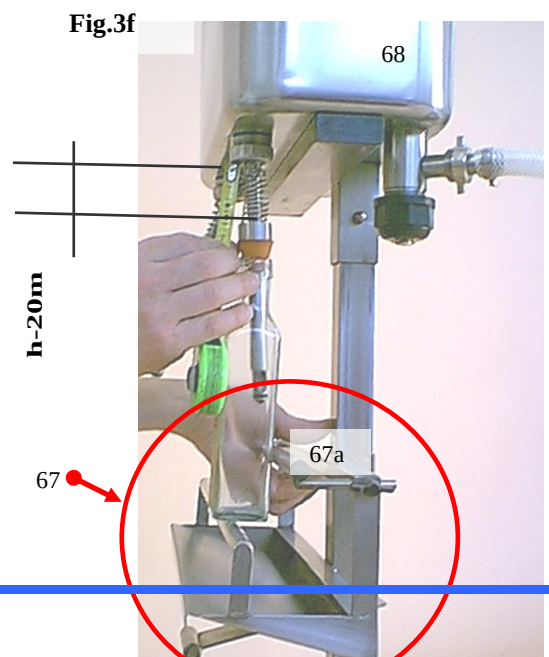
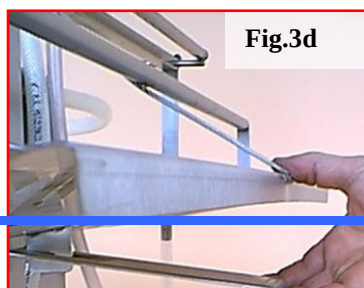
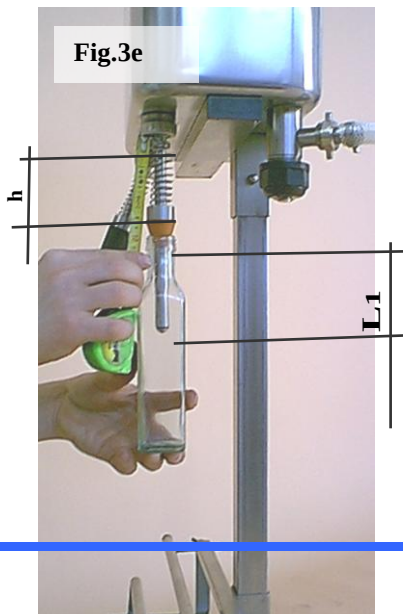
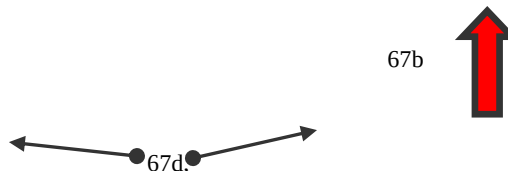


Fig.3c





SECTION 7: OPERATION OF FILLER

Standard Type: see fig4-7-8b. For use with liquids ready for bottling or previously filtered.

- Open Valve, pos. 41f. The liquid coming from storage tank should begin to rise in the tank Pos 68. Wait until level in storage tank reaches about 100 mm (the ball float should not be closing).
- Place empty bottles onto nozzle dispensers (levels should be pre-set: Sec. 6.4).
- Remove filled bottles.
- Any possible drops of liquid flowing out of nozzles, while they are closed, are carried away through the tube, Pos 67e, into an empty bottle which has been set up in advance for this purpose.
- The procedure above enables user to safely leave machine unattended while it is switched on with liquid in storage tank. This strictly covers time necessary for resolving minor issues, such as replenishing empty bottles, repositioning tubes from empty containers to full containers, etc.

DO NOT EVER LEAVE THE FAUCET UNATTENDED WHILE OPEN IN POS 41. Pumping liquid from your source will override the float-valve automatic shut-off. Therefore, if you are using a pump, ensure it is shut off before the possibility of overflow occurs.

CHAPTER 8: MACHINE CLEANING AND MAINTENANCE

INITIAL CLEANING

- Combine 18-20 liters of hot water (60-80°C) with food-grade, non-foaming dishwashing detergent deemed appropriate for your product. Run the machine continually until tub is emptied, operating machine as described in Sec. 9. Fill storage tank, Pos 68, of the filler with the detergent/water solution and continue placing and removing empty bottles at each nozzle until storage tank is completely empty. Rinse thoroughly with hot water. Leave to dry in open air.
- **Option:** For perfect rinsing and drying of internal ducts of the dispenser, it is advisable to request valve opening clips (see fig 2b, art.56232). The machine, with these mounted valve opening clips, can be treated for sterilization at 120°C.
- It is essential to thoroughly wash tubes, tank and nozzles (See Sec.8.1) after each use.

MAINTAINING AND CLEANING DISPENSERS:

- Unscrew Ring No. 58: Fig 9.
- Soak everything in detergent/water solution by pushing the Overflow Tube 51 upwards and moving vigorously around. It is advisable to request Valve Opening Clips-Art 56232).
- Leave to rest to allow the detachment of scales.
- Rinse thoroughly in water. Allow to dry. Reassemble all components.

DISASSEMBLING NOZZLE DISPENSOR TO PREVENT LIQUIDS FROM LEAKING

Steps to follow to replace parts that may deteriorate through use, See fig 9.

- Leave the dispenser mounted on Storage Tank, See Pos 68.
- Push up Overflow Tube upwards, see Pos 51.
- With a small screwdriver, remove O-Ring at the tip, See Pos 59.
- Slip out the Overflow Tube 51, Lip Seal 52, Washer 53 and Spring 54.
- Replacing the Lip Seal (GUAL).

WARNING:

Whenever disassembling Overflow Tube 51, and then slipping off Lip Seal, it is also necessary to replace Lip Seal 52. This is due to the fact that the inner lip of the seal may deteriorate beyond repair when it is disassembled.

Lubricate the new Lip Seal 54 with either grease or petroleum jelly. Also lubricate Ube no. 56. The Lip Seal 52 should be inserted in advance, with the sealing lip facing down and placed into the appropriate seat in Tube 51, by using a small screwdriver or knife tip to facilitate the insertion process.

WARNING:

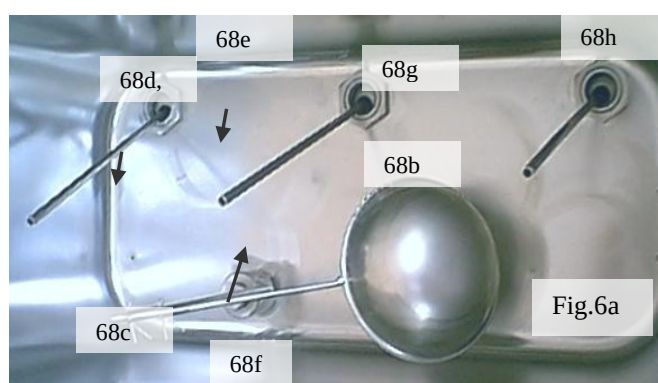
Take care not to damage the sealing lips of the Lip Seal. Take hold of the Overflow Tube 51, with Lip Seal 52 inserted. Slide all of these parts into Tube 56, slowly rotating in one direction only and at the same time, pushing forward very slowly until it crosses the hole of the liquid inlet completely. Continue to push upwards slowly until the groove of the O-Ring 59 is exposed. Place on O-Ring 59.

- Reassemble of Spring 54 and Washer 53
- Replacement of O-Ring 59
- Push Overflow Tube, Pos 51, upwards. Release the groove of the O-Ring.
- With small screwdriver, remove the damaged O-Ring.
- DO NOT allow any flow back down to the bottom of the Overflow Tube,51, as this may leak out from the seat of the Lip Seal with a recurrence of what was described in Sec. 8.4e. The new O-Ring can simply be pushed into place.

DISASSEMBLY FOR CLEANING THE FLOAT BALL AND THE SEALING BALL

- Remove the Cover 68a.
- Extract the two Cotter Pins, pos. 68c and unscrew with a 14mm wrench, pos.68e. Pull out 68d.
- Use suitable detergent/water for cleaning
- **Do not use abrasives or sharp metals to clean the sealing ball or its housing.**

Pos	6th Naming
68b	Stainless Floating Ball with Rod
68c	n.2 Mm2x16
68d	Stainless ball rod
68e	Nut guide Rod Hole6
68f	Total unloading fitting
68g	Counterdado carrier



CHAPTER 9 TROUBLESHOOTING

FILL THE PUMP BODY WITH LIQUID BEFORE TURNING ON THE ENGINE

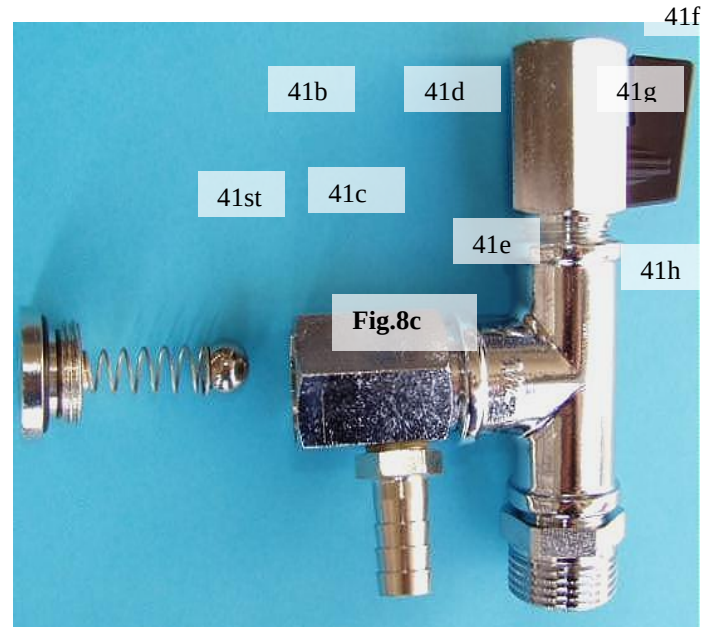
Nr	Issue	Reason for Failure	Solution
Dispenser filler			
7	Float 68b does not stop the maximum level of liquid coming into Tank 68.	The liquid comes from a height of more than 10 meters. This prevents the closing of the liquid input sphere.	Lower the level to 10 meters. Dismount Floating 8.6.
8	Float 68b does not stop the level within the Tank 68.	Liquid comes from pump with too high pressure. Missing Flyer 45 of bypass on pump suction.	Lower the flow rate of the pump by closing the valve on the send or open the Pump Bypass v.5.3b
9	Float 68b does not stop the fill level in the Tank 68.	Encrusted sphere and/or closing seat. Presence of foreign bodies in closing zone of the sphere.	Disassemble Rod 68d with Sphere. 8.6. Clean sphere control and clean batting area.
10	The filling level of the bottle is not constant.	Bottles of different heights.	Select bottles to fill based on height.
11	Failure to stop filling at level with leaking air and liquid between sealing cone and the neck of the vessel to be filled.	Non-round container mouth with sharp edges or light cracks. Seal Cone Pos 60 is worn Spring 54 worn or broken.	Remove Faulty Containers v 4.2. Replace Closing Cone. Replace Spring Pos 54 .8.5.

12	Liquid leaking between Sliding Tube 51 and Washer 53. Drips between Tube 51 and O-Ring Pos 59.	Loss from Lip Seal Pos 52. Loss from O-Ring Pos 59.	Replace Seal Pos 52. 8.g. Replace Pos 59 .8.4e.
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Fig.41 A Request group by automatic pass. Outside the tub

Figure 8

Pos	Art.	Description property
41		Bypass part tub (on request)
41st, 21st		Cap 1/2 C/O-Ring
41b		Opening Spring
41c		Ball
41d		Body
41e		G1/4 12
41f		G1/2 Mini-Valve
41g		T G1/2 Connection
41 h	42	NR G1/2M – G3/4M
42		Bypass Part Pump (on demand)
67e		G1/4 Mini-Valve
42nd		Nipple G1"-3/4M
42b		Nipple G1"-3/4M
60		Tube Liquid Entry into Tub
61		Water saver Pipes
62		Return tube by Filler Pass
67e		TMA D15 c/evolving G1"
42c		G1" c/gevolving gum holder

Fig. 8b**Fig.9a standard machine-mounted dispenser**

42 Group by Automatic Pass Electro pump part



Pos.	Code	STANDARD DISPENSER Detail list	
51		Tube	
52	34383	043 LABBRO	
53	54210	STAIN WASHER	
54	57605	MOLLA s1.5 L100	
55	34248	OR upper-than-sphere hold 2.62x20.24	
56		Full central TUBETTO	
57	34265	ORing summer inf. sphere 3.53x20.22	
58	35080	CHOFOR CHROME 1" BALL BLOCK	
59	34239	O-Ring 2.62 – 7.3 standard tip	
60	33819	STANDARD 30 f14	
61	33823	RUBBER TIRE CUT MM 3	80210 Kit
62	33824	RUBBER THICKNESS CUT MM 5	
63	33825	Tire RUBBER CUT, IN MM12.5	

64	33826	TIRE RUBBER CUT MM 20	Thicknesses, West
65	33827	TIRE RUBBER CUT MM 25	
52-55-57 59x2pieces	Special D12 Nozzle Kit		80219
	Standard Nozzle Kit D14		80220
	Special D16 Special Nozzle Kit		80221

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