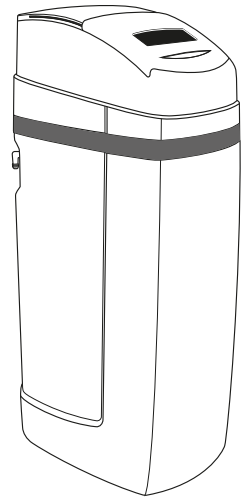




Puretec[®]
PERFECTING WATER



User Guide

SOL-SE Series

Semi-Automatic Water Softening Appliance



WaterMark
ATS5200.103
Licence No. WM 74593
Australian Certification
Services

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Puretec Customer Service

Thank you for purchasing a Puretec Softrol Semi-Automatic Water Softening System. Your system is a proven performer manufactured from only quality materials and components. It will give years of reliability and trouble-free operation if maintained properly.

This user guide is designed for Puretec SOL Water Treatment Systems. Be careful to ensure the information and illustration is applicable to your particular unit.

Caution: Do not use with water that is microbiologically unsafe or without adequate disinfection before or after the system.

The systems are designed for metropolitan supply water but can be used in other situations. For other types of water supply, please contact your local Puretec dealer.

Puretec Water Softeners are designed to run economically for many years, dependent on the initial installation and periodic maintenance.

Flush system for 5 minutes or more, after any period of non-use, more than 2 weeks.

Note: For point of entry installations an approved dual check backflow prevention device must be installed.

When line pressure exceeds 500 kPa, a pressure limiting valve must be installed.

Note: Water softener salt not supplied.

Installation Note: A water filter system/tap, like any product, has a limited life and may eventually fail. Also sometimes failure happens early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. A drain pan, plumbed to an appropriate drain or outfitted with a leak detector, should be used in those applications where any leakage could cause property damage, and/or the water supply should be turned off if no one is home/present.

Installation Record

For future reference, fill in the following data:

Product Information	
Model Number:	
Serial / Batch Number:	
Purchased From:	
Date of Installation:	
Installer / Plumber Details:	
Regen Frequency:	_____ Days

Water Analysis Information	
Hardness:	_____ ppm / mg/L
Iron:	_____ ppm / mg/L
Manganese:	_____ ppm / mg/L
pH:	_____
TDS (Total Dissolved Salts):	_____ ppm / mg/L
Conductivity:	_____ EC / uS/cm
Chloride:	_____ ppm / mg/L
Sodium:	_____ ppm / mg/L

Before Installation

Professional Installation Required

- Installation requires shutting water off to home, cutting home water supply pipe and using a welding torch to add piping and fittings. Specialised tools and skills are required, this must be completed by a qualified tradesperson.

Make Sure Your Water Has Been Thoroughly Tested

- An analysis of your water should be made prior to the selection of your water conditioning equipment. Your dealer will generally perform this service for you, and may send a sample to the factory for analysis and recommendations. Enter your analysis information on Page 4 for your permanent record.
- Softeners are designed to reduce hardness but can handle reasonable amounts of soluble iron if consideration is given to content when selecting model and regeneration settings. For best results contact Puretec to discuss.

Install Water Conditioning Equipment Correctly

Select the location of your water softener with care. Various conditions which contribute to proper location are as follows:

- Install as close as possible to a drain.
- Install in correct relationship to other water treatment equipment. Contact Puretec for assistance.
- Install the softener in the supply line BEFORE the water heater. Temperatures above 43.3°C (110°F) will damage the softener and void the warranty.
- DO NOT install the softener in a location where freezing temperatures occur. Freezing may cause permanent damage and will also void the warranty.
- DO NOT install where water hammer conditions may occur without installing an arrestor.
- Allow sufficient space around the installation for easy servicing.

Things to Remember While Planning Your Installation:

- All installation procedures **MUST** conform to local plumbing codes.
- If lawn sprinklers, a swimming pool, or geothermal heating/cooling or water for other devices/activities are to be treated by the water softener, a larger model **MUST** be selected to accommodate the higher flow rate plus the backwashing requirements of the water softener. Contact Puretec for assistance.



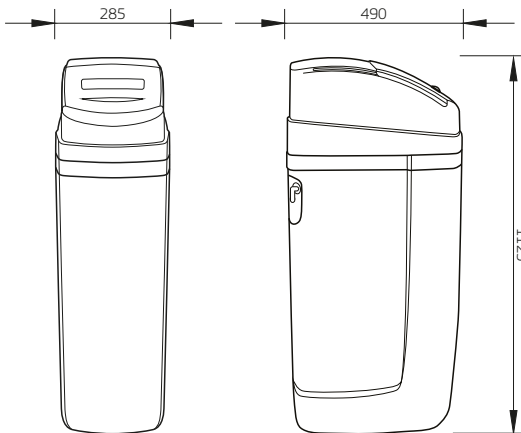
WARNINGS

- The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignment but are not designed to support the weight of a system or the plumbing.
- Do not use petroleum jelly, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicon lubricant may be used on the black O-rings but it is not necessary.
- Do not use pipe dope or other sealants on threads. Thread seal tape is the preferred sealant but is not necessary on the nut connection or caps because of O-ring seals.
- All plumbing should be done in accordance with local plumbing codes. The pipe size for the drain line should be a minimum of 5/8".
- Avoid getting primer and solvent cement on filter system.
- Install grounding strap on metal pipes if required.
- Ensure the system is protected against high pressure and extreme temperatures.

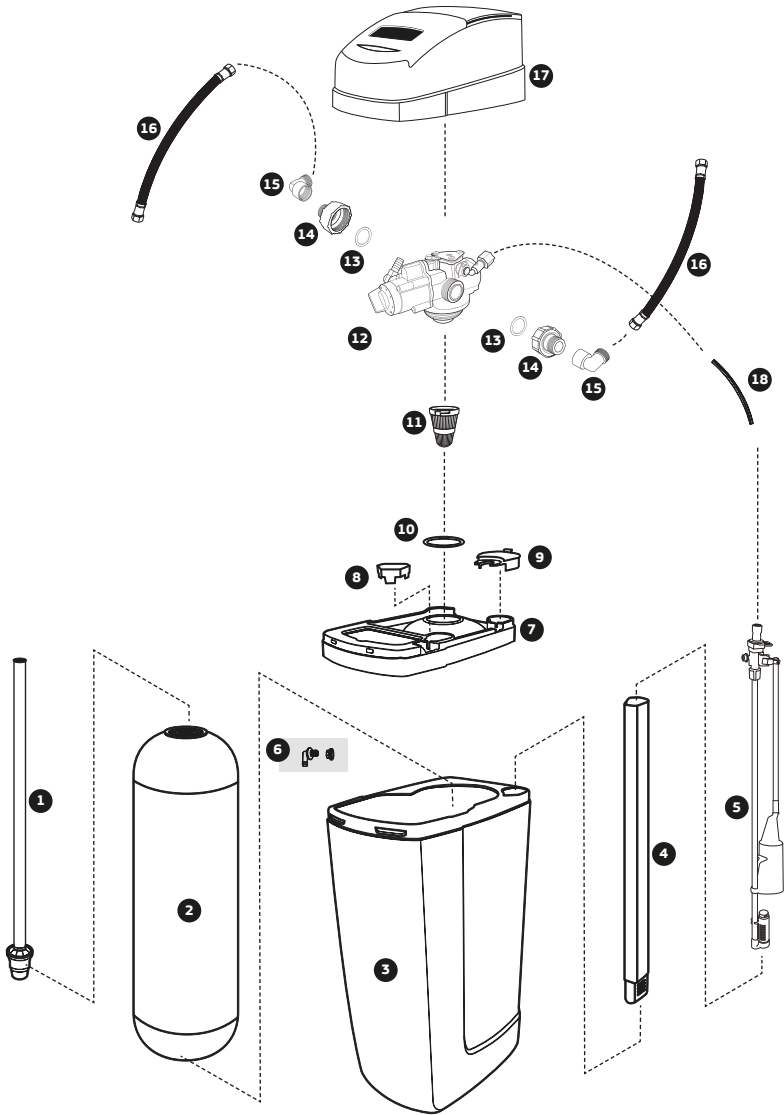
Specifications

Operating Pressure Min/Max:	140 - 520 kPa
Operating Temperature Min/Max:	0 - 48 °C (protect from freezing).
Inlet/outlet Connection:	¾"
Drain Connection:	⅝"
Overflow Connection:	⅝"

Width (mm) (W):	285
Height (mm) (H):	1125
Depth (mm) (D):	490
Dry weight (kg):	SOL30-SE - 27 kg.
	SOL40-SE - 38 kg.
Maximum Salt Storage Capacity:	50 kg



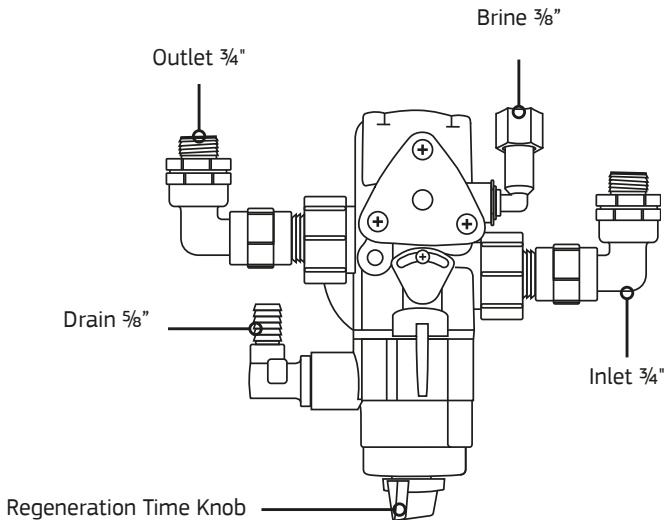
Exploded Diagram



Item	Part no	Description
1	WTD2030	Riser Pipe
2	-	Pressure Tank
3	WTB1035	Cabinet Domestic Softener
4	-	Brine Well
5	WTB4165	Brine Pick-Up Assembly
6	WTB1035	2pc Overflow Kit
7	-	Brine Tank Lid
8	-	Brine Well Blank
9	-	Brine Well Lid

Item	Part no	Description
10	WTV3030	Pressure Tank Collar UV Shield
11	WTD1000	Top Distributor
12	WTV2000	Semi-Auto Softening Valve
13	-	O-Ring
14	WTV2300	Plastic Fitting Kit
15	BFE99FC	Elbow, 3/4" x 3/4" M/F
16	PFE99F	Flexi Braided Hose, 430 mm
17	WTB21001-2	Softener Cover
18	KTU6BK	Tubing High Pressure 3/8" Black

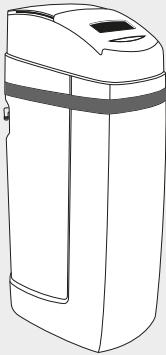
Diagram Identification



Installation Procedure

1 Unpack the Equipment

Ensure all parts are present and have not been damaged in transport. You should have:



Water Softener



Flexi Hoses x 2



User Guide

2 Extra Items Required



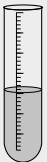
Bag of Salt (refer to page 17 for the type of salt to be used).



3/8" Tubing high pressure for drain and overflow (refer to page13).

3 Ensure Water Has Been Tested

Input values into Table on Page 4 and the analysis has been inspected by Puretec.



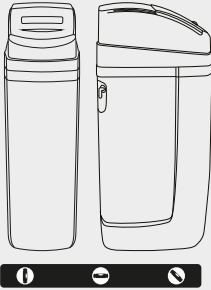
Water Analysis Information	
Hardness	... 1.50 ... ppm / mg/L
Iron	... 0.5 ... ppm / mg/L
Manganese	... 0.5 ... ppm / mg/L
pH	... 7 ...
TDS (Total Dissolved Solids)	... 275 ... ppm / mg/L
Conductivity	... 404 ... EC / dS/m
Chloride	... 12.1 ... ppm / mg/L
Sodium	... 9.6 ... ppm / mg/L



Customer Service Helpline
1300 140 140 (AU) 0800 130 140 (NZ)



4 Position the Softener on a Level Surface



Environmental conditions:

Operating temperature: 0 - 48 °C

Water conditions

Temperature: 0 - 50 °C

Pressure: 140 - 520 kPa

6 Connecting the Softener

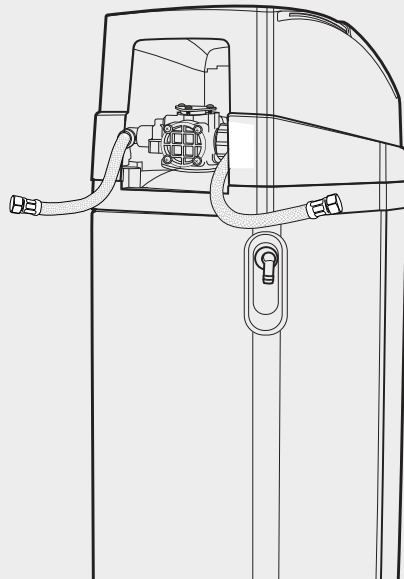
Connect the softener to main plumbing. Do not solder brass adapters while they are inserted in the control module.

Apply plumbing tape to the nipple as required. Connect the pipe work to the valve, refer to page 9 for identification.

FOLLOW LOCAL PLUMBING CODES

Note: Solder joints must be done prior to connecting to the valve fittings. Leave at least 6" between the fitting and solder joints when soldering pipes. Failure to do this could cause heat damage to the fittings.

This should be carried out by a qualified tradesman.



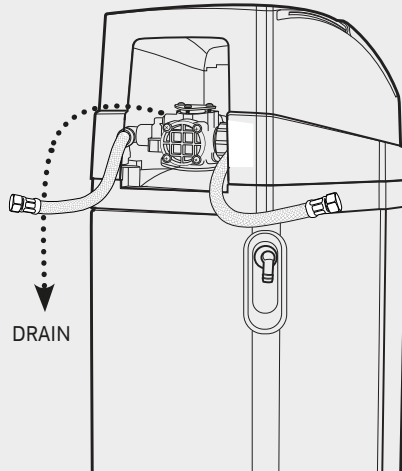
7 Connecting the Drain Line

Locate the 300mm drain tube and attach to the drain connection, refer to Page 9 for identification of the drain port.

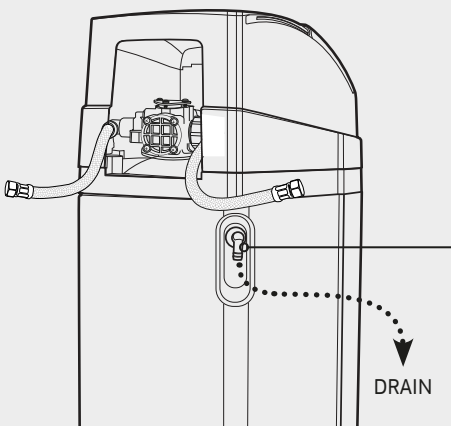
Connect extra tube (tubing not supplied) onto the 5/8" drain line from the valve to the drain. Ensure the drain line is not kinked. The line must not travel more than 2.4 m up from the valve, otherwise increase the diameter of the drain line.

Connect drain and overflow to sewer or stormwater, whatever is approved by local authority for salty discharge water.

Ensure drain line has an adequate air gap of 2 times the pipe diameter or 25 mm, whichever is larger.



8 Connecting the Overflow



Connect tubing onto the 5/8" overflow fitting (tubing not supplied) and run the line to the drain. **Do not connect the overflow into the drain line**, as it must be a direct and separate line to the drain. Allow an air gap as per the drain line. Make sure the drain is not higher than the overflow.

Installation is now complete.

Start-Up

Now programming is completed (if required) you are ready to start the system.

1. Fill the brine tank with 'water softener' salt to approximately half full (salt not included). This will require approximately 50 kg (this is only required initially).
2. Add approximately 15 litres of water to the salt in the brine tank. This is only required for the initial setup. Note: the water level will change, this is normal.
3. Open the nearest tap downstream of the filter system (after the filter system).
4. Allow water to flow through the system slowly, and allow all air to escape out of the closest tap. Wait until the water is flowing out of the tap and then increase the flow slowly up to full flow. Allow to run for 5 - 10 minutes.
5. Close the opened tap and check for leaks.
6. Conduct a full manual regeneration.
7. Your system is ready for use.

Regeneration

The semi-automatic timer must be manually initiated; by turning the timer knob clockwise past 30 min, the drain paddle is opened and the valve is transferred to the brine/slow rinse position; the length of this cycle can be set between 0 and 120 min. At anytime the regeneration can be cancelled by turning the timer knob back counterclockwise to the off position.

The regeneration time recommended is 45 minutes, the frequency should be based on the chart below.

MODEL	CAPACITY OF SYSTEM (L) WITH DIFFERENT HARDNESS LEVELS				
	100 mg/L	200 mg/L	300 mg/L	400 mg/L	500 mg/L
SOL30-SE	10150	5075	3380	2537	2030
SOL40-SE	15400	7700	5130	3850	3080

Replenishment of Salt Supply

The salt storage capacity of the brine tank is approximately 50 kg. During each regeneration a small amount of salt is consumed, thus requiring periodic replenishment for a continuous supply of softened water (the frequency and salt dosage level is dependent on the regeneration schedule).

We recommend to maintain the salt level in the brine tank to 1/2 to 2/3 full. The water level in the brine tank is maintained automatically and does not require manual intervention. NOTE: The water level is usually below the salt level & therefore cannot be seen (this is not a problem).

Always replenish salt before the supply is exhausted.

Note: No extra water is required when topping up the salt level.

Type of Salt to Use

Any type of water softener salt may be used, but for best results, we recommend using coarse solar salt called "water softener salt" or alternatively "pool salt".

Brine Tank Clean-Out (Yearly)

To help prevent service problems the brine tank should be emptied and flushed out with a garden hose, when dirt and other insolubles accumulate on a regular basis. Shut off water inlet supply and depressurise the system before service.

Steps to follow:

1. Disconnect brine line at either end.
2. Turn brine tank upside down and discard old salt.
3. Rinse out with a garden hose.
4. Reconnect brine line.
5. Before loading salt, using a pail or garden hose, add approximately 15 Litres of water to the brine tank.

Media Replacement

Resin ordering code: **RMK-SOL30** for SOL30-SE and **RMK-SOL40** for SOL40-SE.

Customer Service Helpline at **1300 140 140** (AU) and **0800 130 140** (NZ) for more details.

The nuts and caps are designed to be unscrewed or tightened by hand or with the special plastic wrench. If necessary pliers can be used to unscrew the nut or cap. Do not use a pipe wrench to tighten or loosen nuts or caps. Do not place screwdriver in slots on caps and/or tap with a hammer.

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	SOLUTION
1. Unit fails to regenerate.	a) Low inlet pressure.	a) Verify that the service inlet pressure is a minimum of 20 psi.
	e) Regeneration length too short.	e) Ensure that the length of regeneration exceeds 30 minutes.
	b) Drain line is restricted.	b) Ensure that the drain line is free of kinks.
	c) The brine injector is plugged.	c) Clean or replace injector.
	d) Main diaphragm is torn.	d) Replace diaphragm.
2. No water coming out the drain during regeneration.	a) Drain paddle does not open.	a) Turn timer knob to at least 30 min.
	b) Drain paddle does not open.	b) Replace timer head assembly.
	c) Main diaphragm is torn.	c) Replace diaphragm/valve.
	d) Body stem assembly switches continuously.	d) Check minimum operating pressure; refer to installation requirements.
3. Hard water to service.	a) The bypass valve is open or faulty.	a) Close bypass valve.
	b) No salt in the storage tank.	b) Add salt.
	c) Not enough water in the storage tank.	c) Verify that the safety float is properly set.
	d) Unit fails to draw brine.	d) See Possible Cause #5.
	e) Excessive water usage.	e) Check regeneration frequency.
	f) Unit not regenerating.	f) See Possible Cause #1.
	g) Loss of resin.	g) See Possible Cause #4.
	h) Change in raw water hardness.	h) Test water hardness, Contact Puretec with results.
	i) Leak at the distributor tube.	i) Verify that the distributor tube is seated correctly and is not cracked.
	j) Mixing valve open.	j) Reduce mixing valve opening.
	k) Decreasing exchange capacity resin.	k) Clean or replace resin bed.
4. Excessive salt usage.	a) Excessive water in storage tank.	a) Verify that the float is properly set.
	b) Regeneration is taking place too frequently.	b) Verify water usage matches system size and salt dosage.
	c) Faulty safety float	c) Replace safety float.
5. Loss of Resin.	a) Faulty air check in storage tank.	a) Clean or replace air check.
	b) Leak at the distributor tube.	b) Verify that distributor tube is seated correctly and is not cracked.
	c) Lower and/or upper distributor damaged.	

Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	SOLUTION
6. Salt water to service.	a) Brine/slow rinse cycle time set too short.	a) Verify cycle time.
	b) Excessive water in the storage tank.	b) Verify that the safety float is adjusted correctly and operating properly.
	c) Brine injector undersize.	c) Verify proper injector selection.
	d) Improper brine/slow rinse time setting.	d) Verify that brine/slow rinse time corresponds to the proper salt level and amount of resin.
7. Valve fails to draw brine.	a) Brine injector is plugged.	a) Clean or replace injector.
	b) Filter screen plugged.	b) Clean or replace screen.
	c) Loose brine line connection, leak in brine line.	c) Check that all the brine line connections are tight, and check for air leakage.
	d) Drain line is restricted.	d) Ensure that the drain line is not kinked or plugged.
	e) Low inlet pressure.	e) Verify that the service inlet pressure is a minimum of 20 psi.
	f) Main diaphragm is torn.	f) Replace diaphragm.
	a) Drain flow adjuster closed too much.	a) Open drain flow adjuster slowly until unit draws brine.
	e) Not enough water in brine tank.	e) Verify functioning and float setting of brine valve.
8. Continuous flow to drain.	a) Defective clock assembly.	a) Replace clock assembly.
9. Loss of water pressure.	a) Lower distributor basket crushed.	a) Replace basket and verify that the distributor is cut ½ inch below the top of the tank threads.
	b) Mineral or iron build-up in resin tank.	b) Clean resin bed and control valve;
	c) Plugged power and/or upper distributor.	c) Verify that distributors are free from debris.
10. Brine tank overflowing.	a) Leaking from valve on tank.	a) Tighten valve or replace O-ring with lubricant.
	b) Leaking from brine pick-up valve.	b) Inspect under pressure, repair or replace as necessary.
	c) Improper setting of float.	c) Verify float setting of brine valve.
11. Brine tank won't refill	a) Blocked float valve.	a) Clean and replace.

Warranty

Any claim under this warranty must be made within 6 years of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 6 years from date of purchase. 6 year warranty is 1 year parts and labour, plus 5 years parts only. Excludes consumables. To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with Puretec.

Puretec will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties and manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Applicable to all above, is that the warranties need to be approved by Puretec to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at Puretec's discretion, including chargeable inspection and labour costs incurred.

Warranty/Australia

This warranty is given by Puretec Pty Ltd, ABN 44 164 806 688, 37-43 Brodie Road Lonsdale SA 5160, telephone no. 1300 140 140 and email at sales@puretec.com.au.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty/New Zealand

This warranty is given by Puretec Ltd, Reg. No 4464398, PO Box 875 Cambridge 3450, NZ, telephone no. 0800 130 140 and email at sales@puretec.co.nz.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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