

Operator's Manual

Danfoss FT1555-BM230

Bench Mount Hose Capping System



Table of Contents

Intended Use	3
Packaging	3
General	3
Safety	3
Important Information	3
Description of safety symbols in this manual	3
Safety Symbols on the machine	4
Safety Precautions	4
Residual Risks	4
Description and Operating Procedures	5
Product Views (FRONT/ BACK/ SIDE)	5
Features & Benefits	5
Installation	6
Operating procedures	6
Capsule Application Process	7
Specifications	8
Machine Plate	9
Maintenance	10
Air Filter maintenance	10
Troubleshooting	11
Repairs	11
Advised Spare parts	11
Modifications	13
Disposal	13
RoHS	13

Intended Use

The FT1555-BM230 is intended to only shrink CapSeal Capsules onto a hose or tube fitting. Applications other than intended use may void warranty.

Packaging

The CapSeal Machine is packed in cardboard for protection during transportation. Remove all packaging materials before usage. Dispose or recycle all packaging materials in accordance with the local regulations.

General

When the machine is delivered, check the equipment for possible transport damage and that all components are included.

Included Contents:

- CapSeal System FT1555-BM230
- CE manual
- FT1555-SMP (Small Magnetic Puck)
- FT1555-LMP (Large Magnetic Puck)

Safety

Important Information

Before attempting to use the FT1555-BM230, read, understand, and know all the safety information in this chapter. If you do not follow all the warnings and procedures in this manual, it could lead to serious injury to yourself or others. This CapSeal System was designed with safety in mind and includes features to help prevent injury and damage. This manual is intended to help you operate the units in a safe manner. The operator / user is a person who physically interacts with the unit and/or the unit's control systems. In this manual an operator / user includes a person who cleans the machine. It is your responsibility to operate this system

in accordance with all the safety instructions and procedures in this manual and with all other safety procedures in your workplace. It is the user's responsibility to make sure that the system is correctly installed, configured, commissioned, operated, serviced, and maintained so that such actions are only carried out by people who have been properly trained for those tasks. It is also the user's responsibility to make sure that the machine is only used in full accordance with laws - and regulations, which have the force of law - in the jurisdiction in which the machine is installed.

Description of safety symbols in this manual

Safety and Warning signs are attached to the machine to give safety information. All Safety/Warning signs are repeated and usually further explained in this manual.



Mandatory: Read User Manual before using this system.



Use eye-protection



Caution! Burning hands or fingers when entering Air Knife



Caution! General warning sign

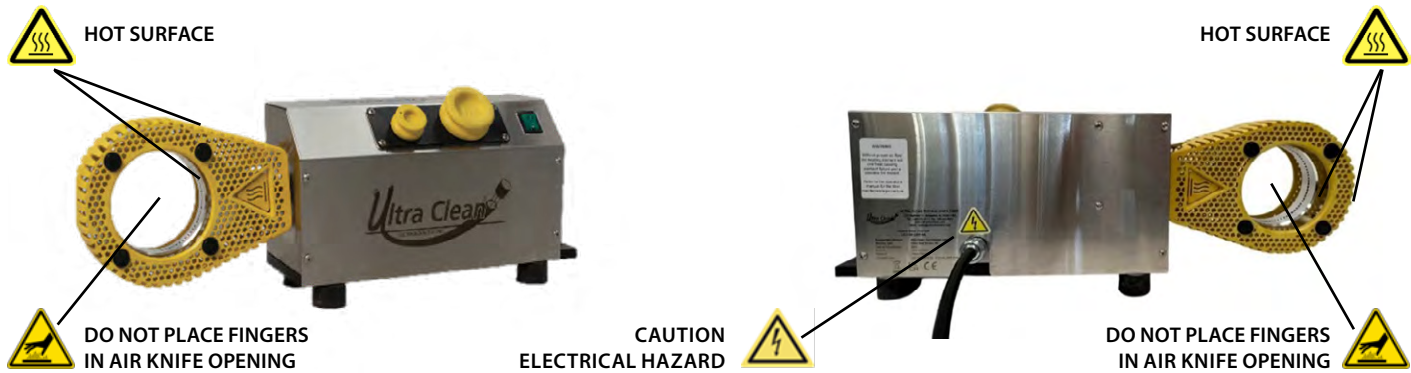


Caution! Hot surface



Caution! Electrical hazard

Safety Symbols for the UC-CSS-203V-AK



Safety Precautions

The following precautions must be followed when using the FT1555-BM230. Failure to follow warnings and fully understand the operation of the FT1555-BM230 could cause serious injury to the operator or other personnel and may void warranty.

- Before starting to use the FT1555-BM230 read the operation instructions and take care of the safety precautions as indicated.
- Safety glasses are mandatory when operating the FT1555-BM230
- The unit is never to be operated without safety cover(s) and heat guard removed.
- Do not use the system until you are sure that the routine checks described have been completed and that the routine preventive maintenance program is up-to-date. If any part of the system is known (or suspected) to be defective or wrongly adjusted do not use the system until a repair has been made. Operation of the system with defective or wrongly adjusted components could create safety hazards. This could lead to serious personal injury.
- Do not touch the areas of the machine housing around the Air Knife/ Heat Guard, as these surfaces are hot and can cause burns. Let the machine housing surfaces cool down before touching external surfaces of the machine.
- Do not put your fingers or hand in the opening of the Air Knife, risk of burning fingers or hand.

*Be sure to keep the work area around the FT1555-BM230, clean and dry at all times.

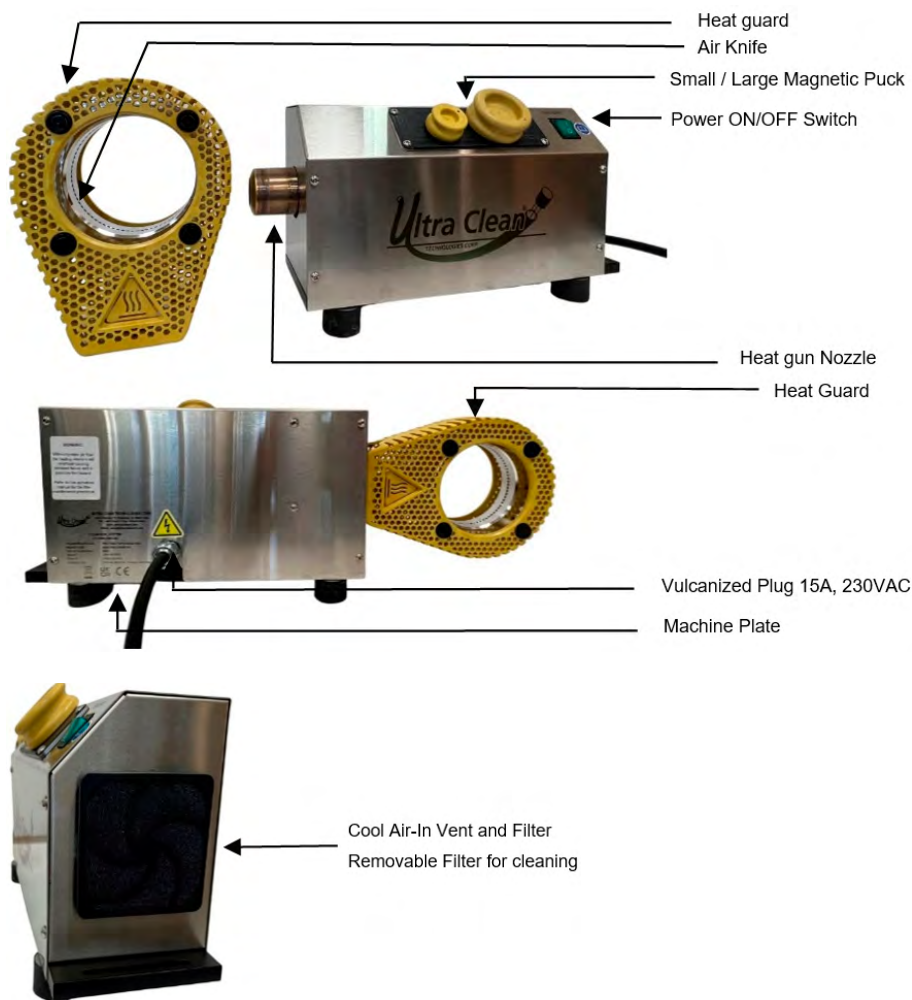
Do not place any objects into the Air Knife other than ends of hose or tube assemblies with a CapSeal Capsule.

Residual Risks

Hazardous Situation	Avoiding	Warning Symbol
The Air Knife will become hot and could cause burns to the skin	Do NOT touch while machine is in operation or immediately after use, allow to cool.	
Burning fingers at operating temperature in the Air Knife FT1555-BM230 176°C 350°F	Do NOT stick fingers into the Air Knife while in use.	

Description and Operating Procedures

Product Views (Front / Back / Side)



Features & Benefits

- Applies heated air to shrink CapSeal Capsules onto fitting ends in less than one second
- Designed for CapSeal Capsules from 14mm ID through 80mm ID
- Works with fitting hex sizes from 10mm through 78mm or any other shape fitting within the size limitation of the capsule.
- The Air Knife with heat guard has a 110mm center opening that allows multiple assembly ends to shrink at once with use of the Magnetic Pucks.
- Magnetic Puck holds the Capsule onto the fitting for a perfect seal during the shrinking process (Small 40mm / Large 64mm)
- Magnetic Puck pulls the swivel nut forward on 90° and 45° fittings for easy insertion into the Air Knife for capsule shrinking
- Heating unit is thermocouple protected against overheating.

Installation


- Position the machine in a clean, dry, well ventilated area and away from any combustible materials.
- Keep a clear perimeter of 0.3m (12") at both sides and 0.6m (24") at rear of machine.
- Do not place anything on top of this machine.
- Attach Air Knife/ Heat Guard to heatgun nozzle, using allen wrench key size (3/16" or 4.5mm)
- Tampering with cord or socket may cause electrical issues and void warranty.
- Connect the power cord to the correct electrical socket, make sure the Power On/Off Switch on the CapSeal System is in the Off position. (L6-15 NEMA twist lock)

Operating Procedures

⚠ Check the area around the machine and make sure that everything is clear, clean and dry before turning the FT1555-BM230 on.

- Set the Power On/Off switch in the on position. The Power switch will light up green. From a cold start the machine will take 8 minutes to reach the optimal sealing temperature. (Consult Chart Below)
- Place the CapSeal Capsule over the fitting of the hose or tube assembly. Place small or large puck onto the end fitting to ensure no space between end fitting and capsule. Be sure capsule is not extended over the edge of Puck for even heat distribution
- Slowly insert fitting through the Air Knife with a forward motion allowing the fitting to pass through the Air Knife. Then with a backwards motion pull the fitting out of the Air Knife.
- Remove magnetic puck and inspect capsule to confirm that it is shrunk securely onto the fitting

⚠ Do NOT leave the FT1555-BM230 unattended when in use.

Machine Warm-Up time from cold start	 FT1555-BM230
WARM-UP TIME (MIN)	SEAL TIME (SEC)
1	3.5
2	2.5
3	2
4	1.5
5	1.25
6	1
7	1
8	0.75
9	0.75
10	0.75

Capsule Application Process



Place correct size CapSeal Capsule on the end of hose or tube fitting. *Reference Size Chart.



Inspect fitting to ensure CapSeal Capsule has shrunk properly.



Place magnetic puck onto the end of fitting. Slowly move fitting through the Air Knife until capsule is completely shrunk.



Pull Tear Strip to remove CapSeal Capsule from fitting.

CapSeal Capsule Sizing Chart

CAPSULE SIZES Inside Diameter x Length in MM	SIZING		*FITTING	
	HEX SIZES COVERED in mm	HEX SIZES COVERED in inches	STRAIGHT	ELBOW
14X24	10mm to 13mm	.39" to .051"	x	x
16X24	12mm to 15mm	.47" to .59"	x	x
18X24	14mm to 17mm	.55" to .67"	x	x
20X23	15mm to 19mm	.59" to .75"		x
20X30	15mm to 19mm	.59" to .75"	x	
22X24	18mm to 21mm	.71" to .83"		x
25X27	18mm to 24mm	.71" to .94"		x
25X40	18mm to 24mm	.71" to .94"	x	
28X40	22mm to 26mm	.87" to 1.14"	x	
31X33	24mm to 29mm	.94" to 1.4"		x
31X40	24mm to 29mm	.95" to 1.14"	x	
34X40	27mm to 32mm	1.07" to 1.26"	x	
38X40	30mm to 36mm	1.19" to 1.42"	x	x
43X45	32mm to 41mm	1.26" to 1.61"	x	x
46X50	34mm to 44mm	1.34" to 1.73"	x	x
52X60	41mm to 50mm	1.62" to 1.97"	x	x
58X60	49mm to 56mm	1.93" to 2.20"	x	x
67X60	55mm to 65mm	2.16" to 2.56"	x	x
80X60	64mm to 78mm	2.52" to 3.07"	x	x

Capsule Size Selection by Fitting

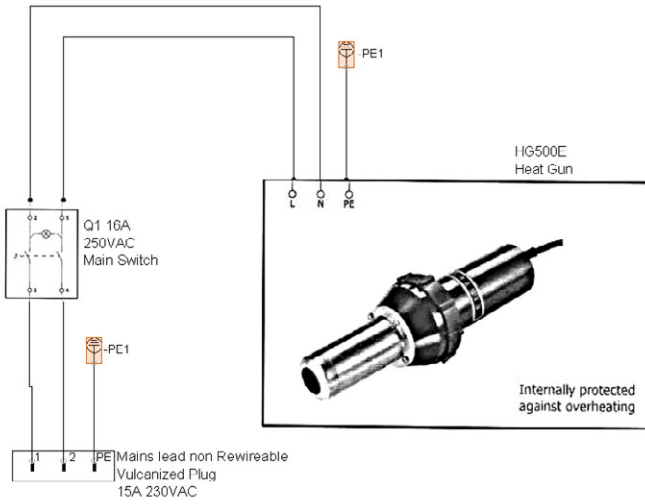
Fitting	Capsule
-2NPT Male	1424
-4 NPT Male	1824 or 2030
-4 JIC Fem	1624, 1824 or 2030
-4 JIC Fem 90	1824 or 2023
-4 Flat Face Fem	2030
-4 Flat Face Fem 90	2023
-5 JIC Fem	2030
-6 NPT Male	2030
-6 JIC Fem	2540
-6 JIC Fem 90	2527
-6 Flat Face Fem	2540
-6 Flat Face Fem 90	2527
-8 NPT Male	2840
-8 JIC Fem	2840
-8 JIC Fem 90	2840
-8 JIC Fem 90	2527
-8 Flat Face Fem	2840
-8 Flat Face Fem 90	2840
-8 Flange Code 61	3133 or 3140
-8 Flange Code 62	3440
-10 JIC Fem	3140
-10 JIC Fem 90	3133
-10 Flat Face Fem	3440
-10 Flat Face Fem 90	3440
-10 Komatsu Flange	3840
-12 NPT Male	3140
-12 JIC Fem	3840
-12 JIC Fem 90	3840
-12 Flat Face Fem	4345
-12 Flat Face Fem 90	4345
-12 Flange Code 61	3840or 4345
-12 Flange Code 62	4345

Fitting	Capsule
-16 NPT Male	4650
-16 JIC Fem	4650 or 5260
-16 JIC Fem 90	4650 or 5260
-16 Flat Face Fem	4650 or 5260
-16 Flat Face Fem 90	4650 or 5260
-16 Flange Code 61	4650
-16 Flange Code 62	5260
-20 NPT Male	5260
-20 JIC Fem	5860
-20 Flat Face Fem	5860
-20 Flange Code 61	5860
-20 Flange Code 62	5260
-24 NPT Male	6760
-24 JIC Fem	5860
-24 Flat Face Fem	8060
-24 Flange Code 61	8060
-24 Flange Code 62	6760
-32 NPT Male	6760
-32 JIC Fem	8060
-32 Flange Code 61	N/A
-32 Flange Code 62	8060

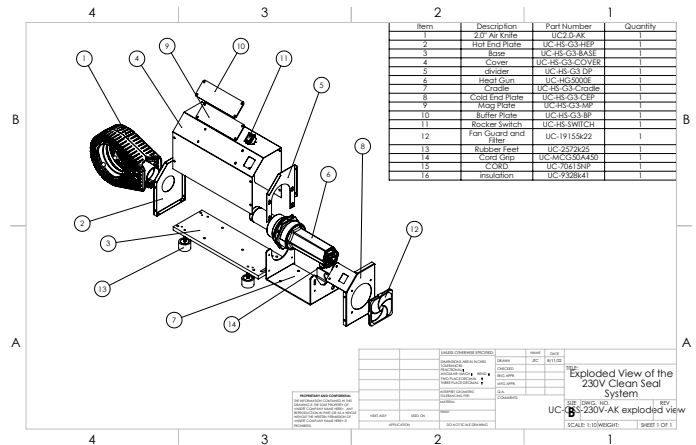
Specifications

Item	Specification
Machine Dimensions (w x d x h) FT1555-BM230	254 x 584.2 x 279.4 mm
Weight (net) FT1555-BM230	9.57 Kg / 21.1 lbs
Voltage	230-240 VAC 50/60 Hz
Max Power consumption	3400W
Current	14.78 Amps
Set Temperature Heat Gun FT1555-BM230	330 °C / 631 °F
Exterior temperature housing FT1555-BM230	60-80 °C / 140-175 °F
Duty Cycle	100%
Noise Emission	<65 dB(A)
Heating element life	Approx. 500-800 hrs.
Electrical Connection Requirement	230-240V, 15 Amp, Grounded L6-15 NEMA twist lock

Wiring Diagram 230V-AK



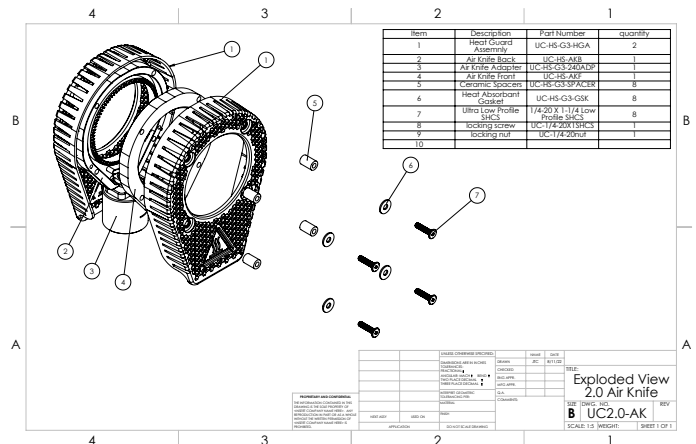
FT1555-BM230 Exploded View



Machine Plate

The Machine plate is located on the back side of the machine, left of the power cord.

FT1555-HH-AK20 Exploded View



Ultra Clean Technologies Corp.

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Clean Seal System

Supplier/Manufacturer: **Ultra Clean Technologies Corp.**

Machine Type: **Clean Seal System AK**

Year of Construction: **2022**

Serial#: **230V-AK-**

Technical Data: **230 Volt, 50-60 Hz, 15 Amps, 3400 Watts**

Authorized Representative:

AV Bechtle GmbH
Robert Bosch Straße 16
D-74906 Bad Rappenau, Germany

Maintenance

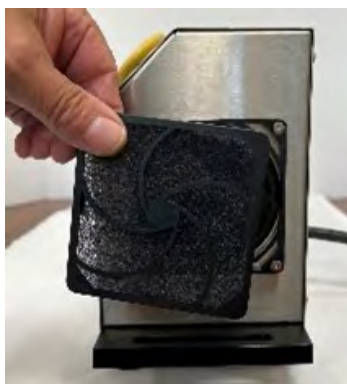
! Disconnect all incoming electrical power to the FT1555-BM230 before you start cleaning or maintaining the system. When the cleaning or maintenance is complete, you may restore the power supply.

Air Filter maintenance

Required tools: 5/64 or 2mm Allen wrench, coarse brush or vacuum cleaner with brush. This maintenance procedure can be executed by the operator of the machine.

! **The scheduled cleaning of CapSeal System Air Filters is vitally important to the correct temperature and function of the heating element and shrinking process. Without proper air flow through the system, the heating element can overheat which will cause internal damage and overheating of the CapSeal Capsule. The amount of airborne contaminants varies from location to location. Daily cleaning of the filter and air intake grill is required when the machine is in use. If you have any questions or concerns about the cleaning procedures or correct operation of the unit, please contact us immediately at fpgproductsupport@danfoss.com or your supplier outside the USA.**

1. Turn off the power switch. Disconnect the FT1555-BM230 from the power source and remove the unit from service.
2. Visually inspect the system for signs of overheating. Examples of overheating may include discoloration of the stainless-steel cover, cracked or peeling warning labels, or deformation of the rubber foot mounts.
3. Remove the black plastic filter retainer on the end plate and remove the foam filter. Wash the foam filter in warm water with soap and dry completely.
4. Remove the 4 screws that hold the filter base in place, using a 2mm or 5/64" Allen Wrench (not included)
5. Use a coarse brush (not included) for removing any debris from the heating elements' air intake grill that could obstruct air flow. A vacuum cleaner with brush attachment is also acceptable for cleaning.
6. Reinstall the foam filter and retainer.
7. Return the FT1555-BM230 to service (see page 4)



Troubleshooting

Problem	Cause	Solution
Capsule does not fit properly	Wrong diameter capsule for application	Measure outside diameter of the fitting and use advised capsule.
Capsule doesn't shrink	Machine is turned off/ Not heated to max temp.	Turn on machine as described in section 2.4 Reference Time chart on page 7
Capsules melt during shrinking process	Temperature is too high. Holding capsule in the AK for more than 5 seconds	Check foam filter and air inlet of the Heat gun. Clean both filters as described under 3.1. Check temperature settings. Display on heat gun should read as follows: FT1555-BM230 325-330°C
Unit doesn't blow air	Faulty electrical Overheating	Check breaker and power supply. Check filters and clean as described under 3.1

Repairs

All electrical components comply with the relevant safety regulations. Repairs to the electrical components should only be performed by a qualified electrician. Otherwise, the user may run the risk of accidents.

Advised Spare parts

Part Number Item	Description	Exploded view #	
		230V-AK	2.0 AK
UC-HG5000E	HG5000E 230V Heat Gun	6	
UC-1955K22	CSS- Plastic Fan Guard with Filter Insert	12	
UC-2572K25	CapSeal System Bumper Feet	13	
FT1555-SMP	Small Puck		
FT1555-LMP	Large Puck		

CapSeal Capsule Sizing Chart

EC DECLARATION OF CONFORMITY FOR MACHINERY
Directive 2006/42/EC

Manufacturer: Ultraclean Technologies Corp.
Address: 1274 Highway 77 Bridgeton NJ 08302, USA

Authorized Representative:
AV Bechtle GmbH
Address: Robert Bosch Straße 16, 74906 Bad Rappenau, Germany

Herewith declares that the Clean Seal System with Air Knife
Model: **UC-CSS-230V-AK**
production year 2022 onwards

is in conformity with the requirements of the
Machinery Directive 2006/42/EC
EMC Directive 2014/30/EU
RoHS Directive 2011/65/EU


With reference to Harmonized European Standards on safety
EN ISO 12100:2010, Basic concept, principles for design and risk assessment
EN IEC 60204-1:2016, General requirements for the electrical safety of machinery
EN 61000-6-2:2001, EMC general immunity standard, industrial environment
EN 61000-6-4:2001, EMC general emission standard, industrial environment

Bridgeton NJ 08302 USA, October 2017

Mark of Conformity 

Bruce Riley, Owner

Modifications

 **Do not attempt to make any modifications or alterations to the machine without the prior express agreement of Danfoss. Unauthorized modifications or alterations to the machine could lead to serious personal injury.**

Please call Danfoss with any questions regarding the safe operation of the FT1555-BM230.

Disposal

Electrical and electronic equipment, accessories and packaging must be recycled in an environmentally compatible manner. Ensure compliance with local legislation, regulations, instructions and precautions concerning health, safety and environment.

RoHS

All surface treatments and materials contained in the manufacturer's products do not contain any of the prohibited substances specified in Directive 2011/65/EU.

About Danfoss Power Solutions FC

Danfoss hoses, fittings, and tooling provide the ultimate fluid conveyance solutions for a variety of equipment and applications around the world. We proudly engineer to support a sustainable future for tomorrow.

To learn more please visit: <http://www.danfoss.com/en/about-danfoss/our-businesses/power-solutions>

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