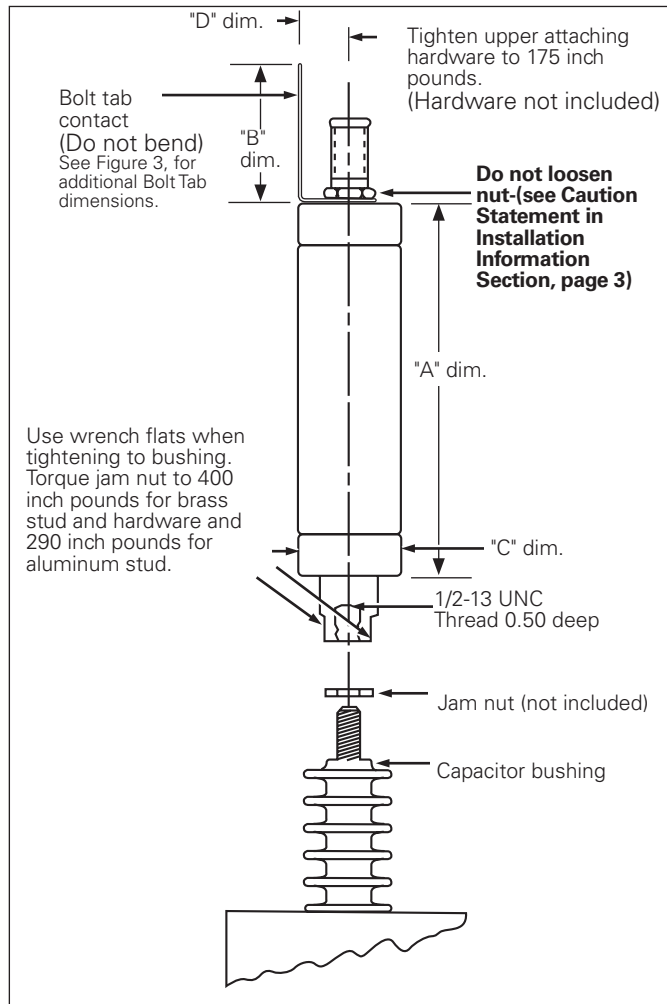


Direct-Connected Capacitor Fuse Installation Instructions



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Safety for life



Eaton's Cooper Power series products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Eaton employees involved in product design, manufacture, marketing and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high-voltage lines and equipment and support our "Safety For Life" mission.

Safety information

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high- and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

Hazard Statement Definitions

This manual may contain four types of hazard statements:

DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Indicates a hazardous situation which, if not avoided, may result in equipment damage only.

Safety instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

DANGER

Hazardous voltage. Contact with high voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

WARNING

Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

WARNING

This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply may result in death, severe personal injury and equipment damage.

WARNING

Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.

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Product information

Full-range fuses are designed to clear a wide range of currents. They should be properly selected for the specific application at hand by properly trained personnel.

Read this manual first

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment.

Additional information

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, contact your representative.

Acceptance and initial inspection

Each fuse is in good condition when accepted by the carrier for shipment. Upon receipt, inspect the shipping container for signs of damage. Unpack the fuse and inspect it thoroughly for damage incurred during shipment. If damage is discovered, file a claim with the carrier immediately.

Handling and storage

Be careful during handling and storage of the fuse to minimize the possibility of damage. If the bushing extender is to be stored for any length of time prior to installation, provide a clean, dry storage area.

Standards

ISO 9001 Certified Quality Management System

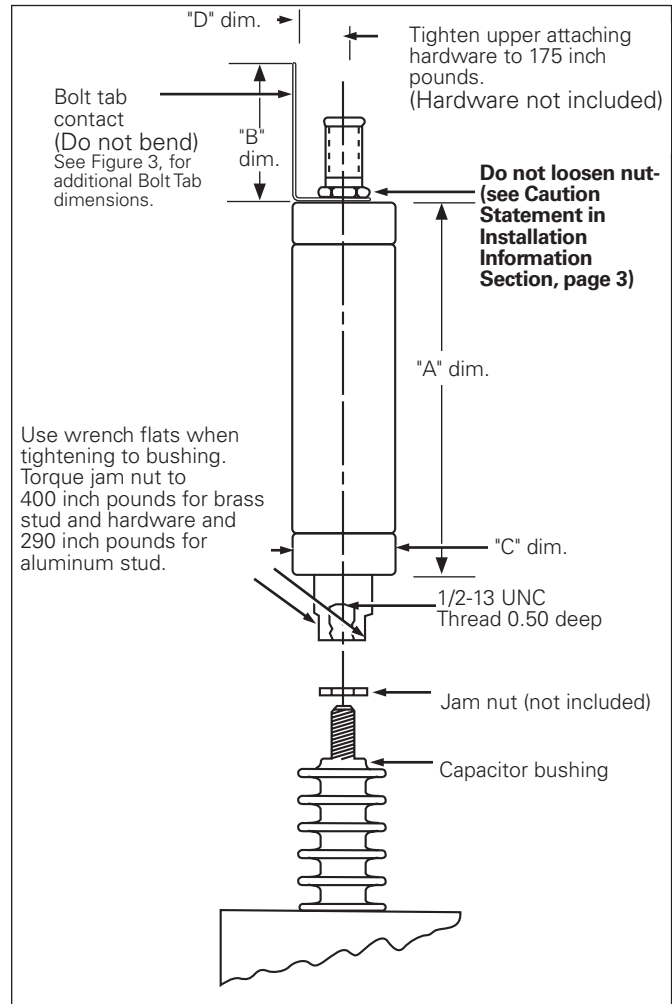


Figure 1. BTB design capacitor fuse. See table 2 for dimensional information

Application information

1. Direct-Connected Capacitor Fuses may be used as replacement fuses or as original equipment. Replace fuses of equal size and rating only. In three-phase applications, each phase must be re-fused with fuses of equal size, rating, and manufacture. **If fuses of different manufacturers are intermixed between phases, simultaneous clearing of three-phase faults cannot be guaranteed.**
2. The maximum rated design voltage of the fuse should not be exceeded in any application.

Installation information

Direct-Connected Capacitor Fuses may be mounted in a variety of configurations. **Follow the instructions of the mounting equipment for proper fit and connection.**

CAUTION

Do not loosen the nut for any reason. Fuse will be damaged and may fail. To reposition fuse, loosen jam nut on bushing stud, reposition, then retighten the jam nut.

CAUTION

Do not bend the fuse. Fuse could be damaged and fail causing other equipment failures. The fuse should not be forced to bend or be put under strain. Adjust the cable or bracket lengths to reach the fuse without pulling or bending the fuse. (Improper installation will void the warranty of the fuse.)

CAUTION

Do not tighten the fuse using the fuse body. Excessive rotational force (torque) on the fuse body can cause fuse failure and possibly other equipment failures. Always use a wrench on the designated flat areas of the threaded female end and two wrenches for all other connections. (Improper installation will void the warranty of the fuse.)

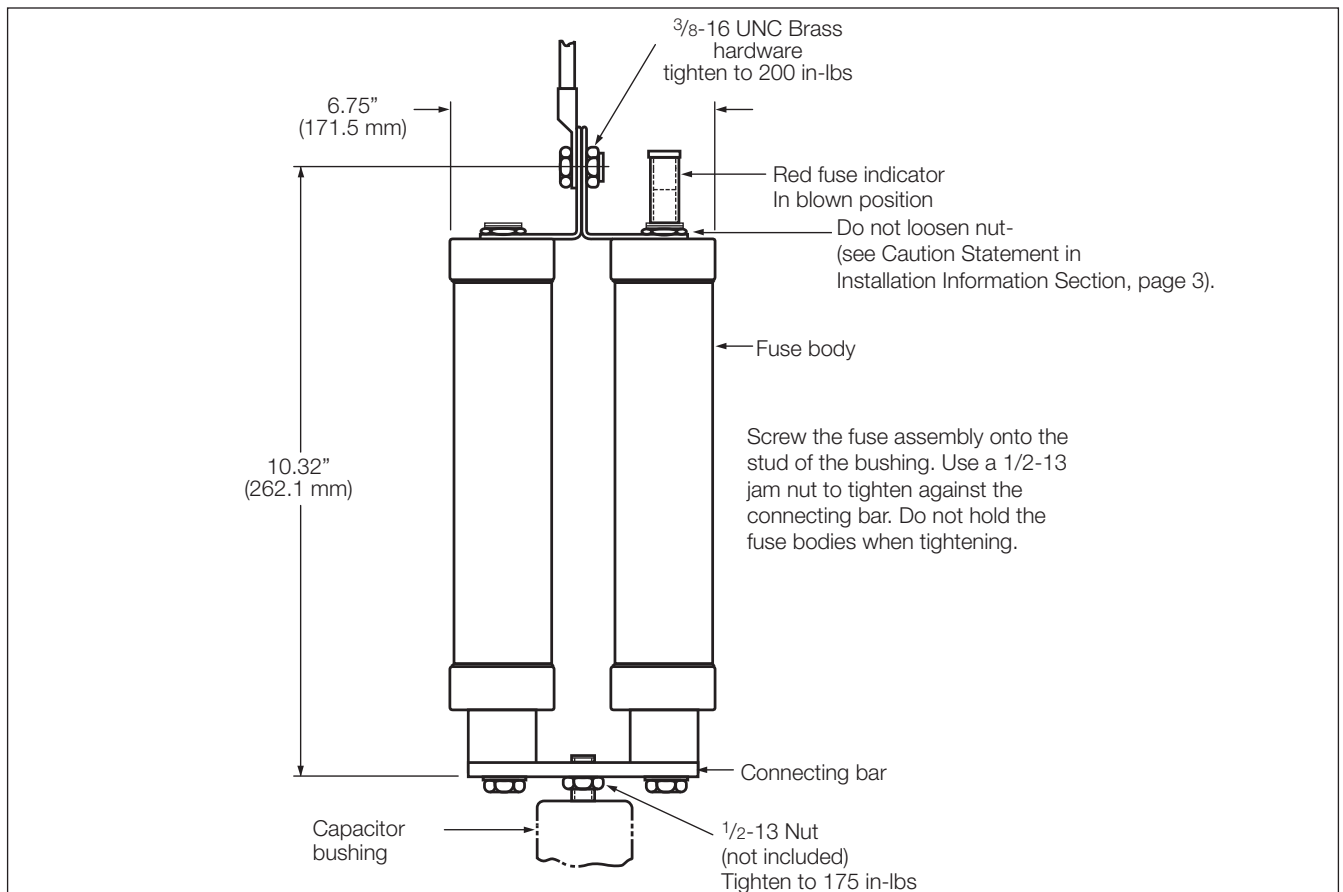


Figure 2. BTU design capacitor fuse

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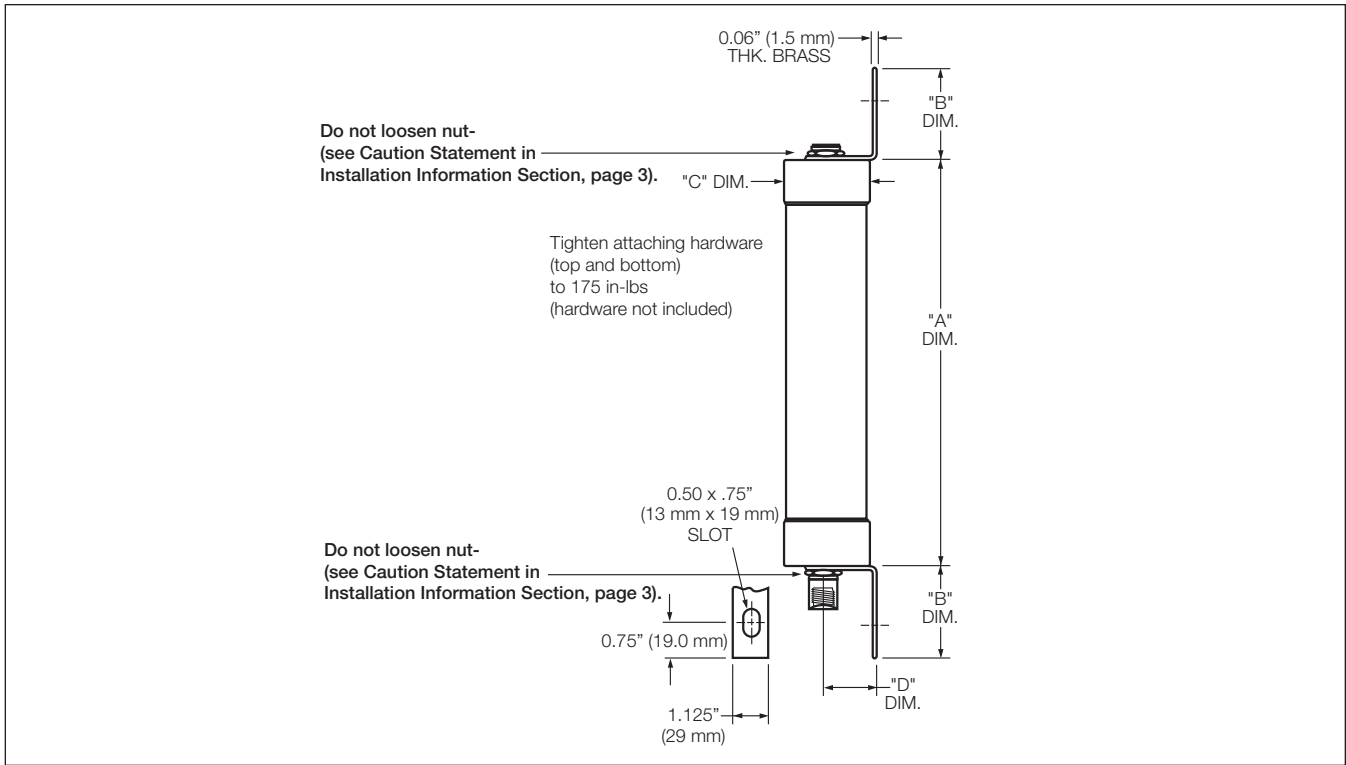


Figure 3. BT design capacitor fuse

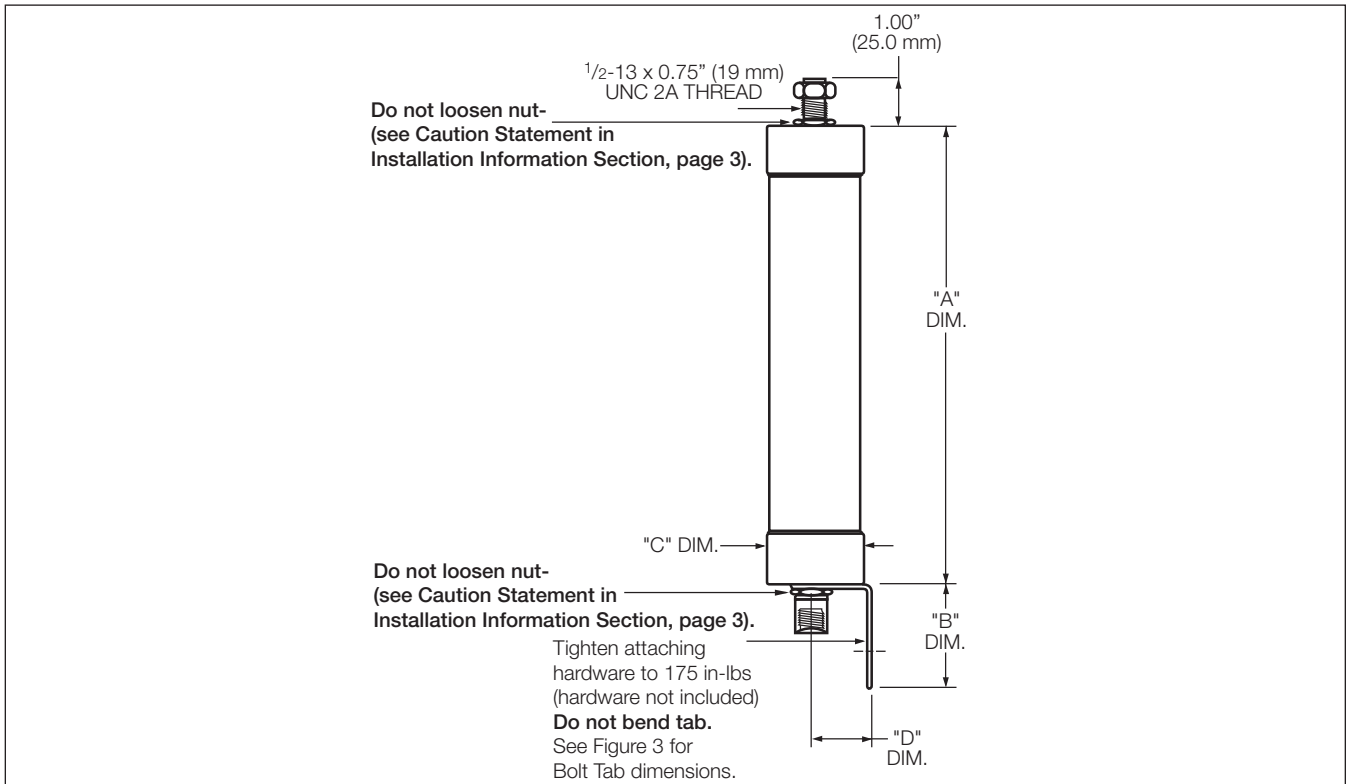


Figure 4. BTS design capacitor fuse

Operation information

Failed capacitor units are quickly located by a red fuse indicator in the blown position (see Figure 2).

For further information regarding this fuse or its application, contact supervisory personnel or your Eaton Representative.

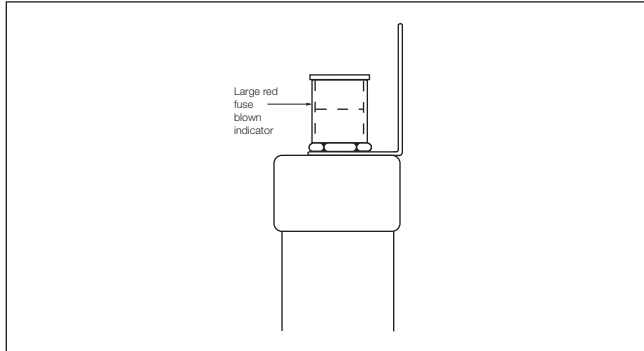


Figure 5. Red fuse operation indicator

Direct-Connected Capacitor Fuse Installation Instructions

Table 1. Direct-connected capacitor fuses – BT, BTS and BTB designs

Voltage Rating (kV)	Current Rating (A)	Catalog Number BT Design*	Catalog Number BTS Design*	Catalog Number BTB Design*	A in (mm)	B in (mm)	C in (mm)	D in (mm)	Weight lb (kg)
4.3**	18	43F018-IVBT	43F018-IVBTS	43F018-IVBTB	7.5 (191)	2.75 (70)	2.13 (54)	1.125 (29)	2.0 (.9)
	25	43F025-IVBT	43F025-IVBTS	43F025-IVBTB					
	35	43F035-IVBT	43F035-IVBTS	43F035-IVBTB					
	45	43F045-IVBT	43F045-IVBTS	43F045-IVBTB					
	50	43F050-IVBT	43F050-IVBTS	43F050-IVBTB					
	65	43F065-IVBT	43F065-IVBTS	43F065-IVBTB					
	75	43F075-IVBT	43F075-IVBTS	43F075-IVBTB					
5.5**	18	55F018-IVBT	55F018-IVBTS	55F018-IVBTB	7.5 (191)	2.75 (70)	2.13 (54)	1.125 (29)	2.0 (.9)
	20	55F020-IVBT	55F020-IVBTS	55F020-IVBTB					
	25	55F025-IVBT	55F025-IVBTS	55F025-IVBTB					
	30	55F030-IVBT	55F030-IVBTS	55F030-IVBTB					
	40	55F040-IVBT	55F040-IVBTS	55F040-IVBTB					
	50	55F050-IVBT	55F050-IVBTS	55F050-IVBTB					
	75	55F075-IVBT	55F075-IVBTS	55F075-IVBTB					
8.3	10	83F010-IVBT	83F010-IVBTS	83F010-IVBTB	7.5 (191)	2.75 (70)	2.13 (54)	1.125 (29)	2.0 (.9)
	12	83F012-IVBT	83F012-IVBTS	83F012-IVBTB					
	18	83F018-IVBT	83F018-IVBTS	83F018-IVBTB					
	20	83F020-IVBT	83F020-IVBTS	83F020-IVBTB					
	25	83F025-IVBT	83F025-IVBTS	83F025-IVBTB					
	30	83F030-IVBT	83F030-IVBTS	83F030-IVBTB					
	40	83F040-IVBT	83F040-IVBTS	83F040-IVBTB					
	50	83F050-IVBT	83F050-IVBTS	83F050-IVBTB					
	65	83F065-IVBT	83F065-IVBTS	83F065-IVBTB					
	80	83F080-IVBT	83F080-IVBTS	83F080-IVBTB					
15.5	100	83F100-IVBT	83F100-IVBTS	83F100-IVBTB	11.80 (300)	1.83 (47)	3.16 (80)	1.75 (45)	5.5 (2.5)
	125	83F125-IVBT	83F125-IVBTS	83F125-IVBTB					
	140	83F140-IVBT	83F140-IVBTS	83F140-IVBTB					
	10	155F010-IVBT	155F010-IVBTS	155F010-IVBTB					
	12	155F012-IVBT	155F012-IVBTS	155F012-IVBTB					
	18	155F018-IVBT	155F018-IVBTS	155F018-IVBTB					
	20	155F020-IVBT	155F020-IVBTS	155F020-IVBTB					
	25	155F025-IVBT	155F025-IVBTS	155F025-IVBTB					
	30	155F030-IVBT	155F030-IVBTS	155F030-IVBTB					
	40	155F040-IVBT	155F040-IVBTS	155F040-IVBTB					
23	50	155F050-IVBT	155F050-IVBTS	155F050-IVBTB	14.60 (371)	1.83 (47)	3.16 (80)	1.75 (45)	8.0 (3.6)
	65	155F065-IVBT	155F065-IVBTS	155F065-IVBTB					
	80	155F080-IVBT	155F080-IVBTS	155F080-IVBTB					
	100	155F100-IVBT	155F100-IVBTS	155F100-IVBTB					
	125	155F125-IVBT	155F125-IVBTS	155F125-IVBTB					
	10	23F010-IVBT	23F010-IVBTS	23F010-IVBTB					
12	23F012-IVBT	23F012-IVBTS	23F012-IVBTB						
18	23F018-IVBT	23F018-IVBTS	23F018-IVBTB						
20	23F020-IVBT	23F020-IVBTS	23F020-IVBTB						
25	23F025-IVBT	23F025-IVBTS	23F025-IVBTB						
30	23F030-IVBT	23F030-IVBTS	23F030-IVBTB						
40	23F040-IVBT	23F040-IVBTS	23F040-IVBTB						
50	23F050-IVBT	23F050-IVBTS	23F050-IVBTB						

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