

# Specifications For DBTD-Series Bubble-Tight Rectangular Isolation Damper

**Damper Design:**

The damper shall be P&G Manufacturing DBTD-series, dish style isolation damper. The damper shall be adequately reinforced to withstand a negative or positive pressure of 10" water gage. The damper shall be manufactured from 14 ga. and 12 ga. T-304 stainless steel sheet metal. The damper shall have a 20" (nominal) T-304 stainless steel dish shaped disc with a knife edge that seats against a 12 ga. T-304 stainless steel frame with a closed-cell neoprene gasket. This creates a gasket-to-knife edge seal. Damper shall have a 1 1/2" wide X 12ga. flange on the inlet and outlet.

**Welding And Cleaning:**

All "pressure retaining" weld joints and seams shall be continuously welded with no porosities allowed. Joints and seams requiring only intermittent welds, such as reinforcement members, shall be intermittently welded. Damper will be free of all burrs, and sharp edges. All weld joints and seams that are a portion of any gasket setting surface, (duct connection flanges and filter sealing surfaces), shall be ground smooth and flush with adjacent base metals. All welding procedures, welders, and welder operators shall be qualified in accordance with ASME Boiler and Pressure Vessel Code, Section IX. All welded joints and seams shall be wire brushed to remove heat discoloration. All production welds shall be visually inspected by qualified personnel, per P & G standard procedure number PGM-1000, Visual Inspection of Welds, which incorporates the workmanship acceptance criteria described in section 5 & 6 of AWS D9.1-1990, "Specification for Welding of Sheet Metal."

**Quality Assurance And Factory Testing:**

DBTD-series damper shall be manufactured under a quality assurance program that addresses ASME NQA-1, "Quality Assurance Program Requirements for Nuclear Facilities". The damper blade shall be tested in the closed position at +10" w.g. and shall be bubble tight when tested in accordance with ASME N510-1980, "Testing of Nuclear Air Cleaning Systems". The complete damper pressure boundary shall be leak tested at +15" water gage and have a maximum leak rate of 0.0005 cfm per cubic foot of housing volume.

**Actuator:**

Damper shall be factory equipped with a manual actuator. Actuator is equipped with an 8" hand wheel. Actuator shall be a Dyna-Torque model no.: DT-2, quarter-turn manual worm geared. Actuator housings and covers are cast aluminum, worms are heat-treated carbon steel, worm wheels are cast ductile iron, input shafts are carbon steel, shaft and worm seals are BUNA-N rubber, housing to cover seals are silicon sealant, bushings are oil impregnated copper nickel steel alloy. Actuator maximum output torque is 2,000 IN.. lbs., with a gear ratio of 30:1.

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DRAWN BY: HJH		TITLE DISH DAMPER SPECIFICATIONS			
DATE: 8/16/2016		APPROVED BY: RBD		DWG SCALE: NTS	
DATE: 8/16/2016		DRAWING NO.: DBTD-SPECS		SHEET 1	OF 1
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