SCHENCK
Balancing and Diagnostic Systems
Schenck Trebel Corporation
535 Acorn Street
Deer Park, NY 11729

HORIZONTAL BALANCING MACHINE

TYPE:
TWO-PLANE, HARD-BEARING
WITH PERMANENT CALIBRATION*

MODEL:
SCHENCK HM30BK WITH CAB 700

DESIGN AND FEATURES - See Brochures RM1001e and RC1006e.

1. **CAPACITY**

1.1. **Rotor Mass Limitations**

1.1.1. Maximum weight:	1000 lb
1.1.2. Overload for symmetrical loading:	1500 lb
1.1.3. Rotor weight x speed squared (Wn^2) not to exceed:	600 x 10^6 lb/min^2
1.1.4. Rotor polar moment of inertia x speed squared (Wk^2n^2) not to exceed: The $(Wk^2)n^2$ - value is based on a 3 hp DC motor.	800 x 10^6 lb-ft^2/min^2
1.1.5. Maximum sensitivity per plane:	
12.0 gram-in. at:	120 - 370 rpm
1.2 gram-in. at:	370 - 900 rpm
0.12 gram-in. at:	900 –2300 rpm
0.012 gram-in. at:	2300 - 10000 rpm
1.1.6. Instrumentation speed range:	120 - 10000 rpm
1.1.7. Unbalance reduction ratio:	up to 95%
1.1.8. Minimum achievable residual unbalance under ideal rotor conditions same as maximum sensitivity, but not better than: displacement of C.G. Multiply by weight of rotor in grams to obtain minimum achievable residual unbalance in gram-inches.	0.000 005 inches

* Terminology in accordance with ISO 1925. Proposal layout in accordance with ISO 2953.

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1.2. Rotor Dimensions

1.2.1. Maximum diameter over bed:	49 inches
1.2.2. Rotor belt-drive diameter range:	2.0 - 11.8 inches
1.2.3. Maximum distance between support bearing centerlines:	dependant upon gap between beds
1.2.4. Minimum distance between support bearing centerlines:	
with belt-drive inboard:	6 inches
with belt-drive outboard:	2.75 inches
1.2.5. Journal diameters accommodated on one set of twin roller carriages:	.4 - 3.15 inches

1.3. Drive to Workpiece

1.3.1. Belt drive size: 3/30	Type: Overslung
1.3.2. Width of belts, 2 each:	.8 and 1.2 inches
1.3.3. Balancing speeds provided by belt drive over a 5 inch driven diameter; variable up to a maximum of:	625/940 rpm

1.4. Prime Mover

1.4.1. Type of motor:	DC
1.4.2. Rated power:	3 hp
1.4.3. Motor base speed:	1750 rpm
1.4.4. Motor speed regulation ratio:	3:1
1.4.5. Power supply:	230/1/60 AC
1.4.6. Type of brake:	Dynamic Braking
1.4.7. Motor and controls in accordance with:	NEMA & JIC Standards

2. MACHINE COMPONENTS

2.1. Two (2) machine beds

One (1) 98" long and one (1) 59 long, both 11.8" high, each with two T-slots for clamping supports, with chain for support moving gear.

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2.2. **Two (2) hard-bearing supports**, each with:

2.2.1. Electro-dynamic high output pickup.
2.2.2. Rigidly supported bearing bridge with guides and height adjustment
2.2.3. Twin-roller carriage with high-precision, slightly crowned rollers, with
2.2.4. Hold-down bracket to help secure the rotor in the balancing machine. The bracket is hinged and tilts out of the way for easy rotor loading
2.2.5. Manual support moving gear with ratchet.

2.3. **Two (2) axial thrust stops**, axially and radially adjustable, mounted to the bearing bridge.

2.4. **One (1) photoelectric scanning head**

2.5 **One (1) belt drive, size 30** - Type: Overslung

2.5.1. Bracket with motor mounting flange, and two adjustable crowned idler pulleys to enable flat belt to remain parallel over complete drive diameter range, without requiring change of belt.
2.5.2. Hinged bracket with three crowned idler pulleys, with quick clamping
2.5.3. Two-step pulley for optimum selection of drive-to-driven diameter
2.5.4. Two flat belts.
2.5.5. One hinged pulley guard over drive pulley.
2.5.6. Drive motor (See Par. 1.4.).

2.6. **One (1) control cabinet**, with:

Start-stop pushbutton switches, speed control potentiometer, SCR controlled DC drive and single-step dynamic braking, all housed in NEMA 1 enclosure; meets JIC and NEMA requirements. (Cabinet designed to support the instrumentation).

2.7. **One (1) measuring instrumentation** - see attached literature

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3. **ACCESSORIES** - (Included in price of machine).

   3.1. **One (1) stand with swivel for photocell.**

   3.2. **One (1) set of special tools.**

   3.3. **Two (2) operating manuals.**

4. **PAINT** - Similar to RAL 7032 pebble gray, and RAL 7022 umber gray.

5. **GENERAL ARRANGEMENT** - See Brochure RM1001e.

   5.1. **Overall Dimensions**

Length:	110 inches
Width:	40 inches

   5.2. **Weight**

Gross:	2,000 lb
Net:	1,500 lb

SCHENCK TREBEL

Encl.

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