



Model HZ-9703A Belt/Universal-Joint Double Selection Drive Balancing Machine



Product Introduction

HZ-9703A

Revision A

Proprietary Rights Notice

This document and the information that it contains are the property of Chinese government authorization. Rights to duplicate or otherwise copy this document and rights to disclose the document and the information that it contains to others and the right to use the information contained therein may be acquired only by written permission signed by a duly authorized officer of Chinese government.

Trademarks

Lixian[®] is a registered trademark of Chinese government authorization. Other names, logos, icons and marks identifying Lixian products and services referenced herein are trademarks of Chinese government authorization and may not be used without the prior written permission of Chinese government authorization

Other product and company names listed are trademarks or trade names of their respective companies.

Original Instructions

Copyright © 2018 Central Lixian Instrument Scientific Co., Ltd.. All rights reserved. All of the specifications shown in this document are subject to change without notice.

National/Worldwide Headquarters

Dongguan Lixian
No.2 Xinhe Hengxing Road, Wanjiang District, Dongguan City, 523000,
Guangdong Province, China

Belt/Universal-Joint Double Selection Drive Balancing Machine

Lixian series machine #97

Overview

The balancing machine is an instrument used to determine the unbalance of the rotor. The balancing machine is a hard-supported balancing machine. The swing frame is very rigid. The measurement result of the dynamic balancing machine is used to correct the unbalance of the rotor, so that the vibration generated when the rotor rotates or acts on the vibration on the bearing is reduced to the allowable range to achieve the purpose of reducing vibration, improving performance and improving product quality.

HZ-9703A Belt/Universal-Joint Double Selection Drive Balancing Machine , It is mainly composed of high-precision mechanical parts and advanced electrical parts, combined into one hard-bearing balancing machine. This series of products is a universal horizontal universal joint and ring belt double that is developed, designed and manufactured by our company based on core technologies at home and abroad. One of the balance machines with integrated transmission and combination is currently an advanced model in the world.



Application

It is applied to various rotating workpieces, such as centrifuge rotors, fan rotors, centrifugal impellers, water pump rotors, generator rotors, internal combustion engines, various shafts, Dryers, screen baskets, crushers, shredders, train wheels, steam turbines, paper machinery, agricultural machinery, aviation, ships and other industries.

Principle

This machine adopts universal joint and ring belt double transmission combined device, the universal joint shaft can move in a small range without clearance to facilitate the connection between the workpiece and the universal joint. The use of the belt device has the characteristics of high precision, high efficiency and convenient operation for the suitable workpiece rotor.

The electromechanical measurement system can be equipped with a microcomputer digital display measurement system or a computer measurement system.

Purpose

An unbalanced rotor generates a pressure on its supporting structure and the rotor itself during its rotation, and causes vibration. Therefore, the dynamic balance of the rotor is very necessary. The balancing machine is to check the dynamic balance of the rotor in the rotating state. The function of dynamic balance is:

- Improve the quality of the rotor and its components
- Reduce noise
- Reduce vibration
- Improve the trial life of supporting parts (bearings)
- Reduce user discomfort
- Reduce the power consumption of the product

Technical Parameters

Model	Belt Drive	Universal-Joint Drive	Belt Drive	Universal-Joint Drive
Max Mass of Workpiece(kg)	500		3000	
Max Diameter of Workpiece	Ø1500mm		Ø2100mm	
Distance Between Two Support Bearings (mm)	60		70	
Maximum distance from drive shaft flange to right support center (mm)	1600 (Machine length 2.5m)		2000 (Machine length 3m)	
Roller bearing journal range(mm)	Ø10~ Ø140 (Equip SKF bearing)		Ø15~ Ø120, Ø120~Ø240 (Equip SKF bearing, with two pairs of roller)	
Diameter range of belt drive	/	Ø20~Ø600	/	Ø30~Ø800
Drive shaft torque (N.m)	10	/	7800	/
Motor Power (KW)	3 (Inverter motor)		7.5 (Inverter motor)	
The smallest achievable residual unbalance (g.mm/min)	emar≤1	emar≤0.5	emar≤1	emar≤0.5
Unbalance reduction rate (%)	URR≥95%			
Measuring system	Microcomputer digital electrical measurement system (optional computer measurement system)			
Note: The technical parameters of the above series of balancing machines are for reference only. The specific parameters and quotations need to be determined according to the actual situation of the rotor of the user's workpiece, and can also be customized.				

Unbalance amount calculation

$$m_{per} = M \times G \times \frac{60}{2\pi \times r \times n} \times 10^3 (g)$$

Where **m_{per}** is the allowable unbalance:

M: represents the weight of the rotor, the unit is kg

G: represents the balance accuracy grade of the rotor, the unit is mm/s

r: represents the correction radius of the rotor, the unit is mm

n: represents the speed of the rotor, the unit is rpm.

Annex

The balanced quality grades of commonly used various rigid vermilion drills

Balance quality grade	Eper. ω mm/s	Type of rotor
G 0.4	0.4	Spindle, grinding wheel, motor rotor and gyroscope of precision grinder
G 1	1	Tape recorder and record player, CD, DVD drive, grinding machine spindle drive and electric cabinet, small armature for special requirements
G 2.5	2.5	Gas and steam turbines, machine tool drives, special requirements of medium and large motor rotors, computer storage drums or disks, turbine compressor rotors, small armatures that do not meet one of the two conditions of G6.3, turbo-driven pumps
G 6.3	6.3	Paper machine drums, printing press drums, main turbine gears of merchant ships and marine vessels, high-speed separator drums, fans, fans, blowers, rotor parts of aviation gas turbines, flywheels, pump impellers, machine tools and general machinery, generally medium-sized And large motor rotor (shaft center height of more than 80mm) mass-produced small armatures whose installation conditions are not sensitive to vibrations. Vibration isolation devices are provided, and individual parts of the engine with special requirements. Supercharger rotors.
G 16	16	Drive shafts with special requirements (propeller shafts, universal joint drive shafts), parts of grinders, parts of agricultural machinery, individual parts of automobile engines, crankshaft drive parts of six-cylinder and multi-cylinder engines with special requirements, metallurgy, chemical industry, Parts of continuous process machinery in petroleum and other refineries, main turbine gears of ships (merchant ships), centrifugal separator drums
G 40	40	Automobile wheels, hubs, rims, wheel assemblies, drive shafts,

		elastically installed six-cylinder or more high-speed four-stroke (gasoline or diesel) engine crankshaft drive devices, and engine crankshaft drive devices for automobiles, trucks and locomotives.
G 100	100	Crankshaft drive device of six-cylinder or more high-speed diesel engine, complete engine (gasoline or diesel) of automobile, truck and locomotive
G 250	250	Rigidly mounted high-speed four-cylinder diesel engine crankshaft drive device
G 630	630	Rigidly installed crankshaft drive device of large four-stroke engine, elastically installed crankshaft drive device of marine diesel engine
G 1600	1600	Rigidly mounted crankshaft drive device of large two-stroke engine
G 4000	4000	Crankshaft drive device of low-speed marine diesel engine with odd number of cylinders rigidly installed

Note: Before you choose a balancing machine, you should first determine the balance level of the rotor

注： 在您选择平衡机之前应该先确定转子的平衡等级

Product Support

Lixian® provides documentation, including manuals and online help, that can answer many of the questions you may have. It is recommended that you review the documentation sent with the system you purchased for possible solutions to your questions.

If you cannot find answers in these sources, contact Lixian® Service directly. A list of Lixian® offices is available on our website at www.lyxyantech.com. In the US and Canada, you can call directly at +86-137-1188-8650.

HZ-9703A Power Requirements and Cords

Power requirements

Table 2. HZ-9703A Power requirements

Parameter	Specification
Maximum Power (VA)	256
Single Phase Voltage (Vac) (±10%)	220~240,100~120 (customize)
Frequency - Hz	47 to 63
Length of Power Cable - m (ft)	2.44 (8)



For 230 Vac operation, the frame is normally set to 240 V.

The 230 Vac option on the voltage selector is designed for 220 Vac ±10%.

Warning



Electrical hazard - to ensure safety and Electromagnetic Compatibility (EMC) the facility's receptacle must be a 3-wire grounded receptacle. The ground must be a low impedance earth ground in accordance with national and/or local regulations.

Warning



You must use GFCI (Ground Fault Circuit Interruption) protection on all power sources if your testing system includes water or any other fluid.

If your system includes any fluids (e.g. water-cooled grips, BioPuls baths, food testing fixtures), you must use GFCI protection on all power sources to protect the operator from fluids that might leak into the load frame electronics.

LIXIAN

CREATIVE

Add: No. 88 He ngxing Road, Xinhe, Wanjiang, Dongguan

Email: sales1@hengzhunx.com

WhatsApp: +86 137 1188 8650

TEL: +86 0769 23388228

Web: www.lyxyantech.com

EXCELLENT BUSINESS

EXCELLENT PRODUCT

EXCELLENT SERVICE