

## MFZG-1W Gear wear testing machine

### One.Product Description

MFZG-1W gear wear testing machine is a cost-effective laboratory evaluation equipment developed by our company to meet the research of gear oil lubrication performance, gear material technology and production user demand.



The product is suitable for the following tests:

1. Through the German lubrication test (DIN51354) standard method, that is, FZG gear oil test to determine the abrasion load and weight change caused by gear oil.
2. Determine the strength curve of the tooth surface bearing capacity of gears made of different materials.
3. Determine the strength curve of the root bearing capacity of gears made of different materials.
4. Test of fatigue strength of tooth surface.
5. Test for determination of lubricating oil shear stability.

The product is suitable for the following standards:

SH-T 0306-1992 Determination of the carrying capacity of lubricants.

GB-T 19936.1-2005 Oil relative gluing ability.



GB-T 14230-1993 Test method for bending fatigue strength of gears.

GB-T 14229-93 Test method for gear contact fatigue strength.

GB-T 13672-92 Test method for bearing capacity of gear agglutination.

SH-T 0200-1992 Determination of shear stability of polymer lubricating oil.

## Two. Technical parameters

NO	Name	Technical indicators
1	Maximum torque	100kg·m
2	Load series	12
3	Spindle frequency conversion speed range	0-3000r/min (Stepless adjustable)
4	Test oil temperature	90±3°C
5	Motor	Servo motor
6 Test gear		
	Accuracy	5
	Center distance	91.5
	Tooth width	20
	Modulus	4.5
	Tooth number	Z small=16      Z big=24
	Pressure angle	$\alpha=20^\circ$
	Angle of engagement	$\alpha_b=20^\circ 26'$
	Modification coefficient	X small=0.8532      X big=-0.5
7	control method	It has an independent integrated industrial control cabinet, a series of industrial control motherboards, the system has power decline detection, gear wear resilience detection, incumbent amplification and read wear mark width to evaluate gear and oil grade
8	Protective device	Mechanical and electrical double protection system



9	control software	The professional software of HTMS has the real-time collection function of torque, and analyzes the processing of images, single point and secondary data processing.
10	Test machine size (L×W×Hmm)	1400×550×1000

### Three. Structure and principle of test machine

The MFZG-1W gear friction tester includes test gear and drive gear, which are mounted on two parallel axes. A shaft is passive, with a loaded load clutch, which consists of two flanges. When a predetermined load is added, the two flanges can be tightened and fixed with the screws above it. The predetermined load is applied by the automatic loading device.

Both the test gearbox and the drive gearbox are mounted on the same base.

### Four. Basic configuration

Category	NO	Name	Specification and quantity	Notes
Product technical documents	1	Host	1 set	
	2	Electric control box	1 set	
	3	Automatic loading device	1 set	
	4	Cycle oil	1 set	
	5	Cover of circulating water tank	1 set	
	6	Test Gear	1 pair	
	7	Drive gear	1 pair	
Enclosure	1	Propeller	1 set	
	2	Pumping device	1 set	
	3	Torsion shaft	φ13 φ18 φ23 1 each	(φ23 has been installed on the host)
	4	Plum	1 pc	(φ45×75)



		wrenches		
	5	Socket wrench	1 set	
	6	Wrench	1 pc	(10×4)
	7	Hexagon bar wrench	1 each	(5. 6. 8)
	8	Adjustable wrench	1 pc	(8 inches)
	9	Rubber hammer	1 pc	(105×50)
	10	Screwdriver	1 each	(50.100 m./m)
	11	Magnifier	1 pc	(2.5 times)
	12	Washing ear ball	1 pc	(60)
	13	Steel needle	10 pcs	(φ1×40)
	14	T-shaped screw	8 pcs	(M10)
	15	Nut	8 pcs	(M10)
	16	anti-loosing washer	2 pcs	(φ26)
	17	Special T-shaped screw	2 pcs	(M10)
	18	Rubber block	5 pcs	(12×20×30)
	19	Oil seal	1 pc	(φ26)
	20	Variable diameter pipe	4 pcs	(φ30)
			1 pc	
	21	Tee	1 pc	(4)

### Five. Confidentiality of technical information

1. This technical scheme belongs to the technical information of our company. The user shall bear the obligation to confidentiality of the technical information provided by us. No matter whether this scheme is adopted or not, the terms are valid for a long time.



2. We shall also have confidential obligations for the technical information provided by users.

## **Six.after-sales quality service**

The quality guarantee period is one year from the acceptance, the whole life is maintained, the whole year is free, the new machine is free to install and debug, and the operators are free to train.

- 1.the test equipment provided is in line with the current national standard or industry standard, so as to ensure the advanced and reliable technology of the test equipment.

- 2.The necessary spare parts and accessories are supplied perennial.

- 3.The product supports all year round, and provides solutions within 24 hours after product maintenance. If we need to solve the problem within 72 hours,

- 4.The software is upgraded free of charge in life.

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