Automatic ultra high pressure dead weight tester V1.0

Application

- ✓ Calibration laboratories
- ✓ Avionics/Aerospace equipment manufacturers
- ✓ Precision pressure sensor manufacturers
- ✓ Calibration service companies and service industry

Features

High-accuracy piston

High-elastic modulus tempered ceramics and tungsten carbide are selected as piston materials to minimize deformation of the piston assembly under ultra-high pressure, effectively improving the accuracy.

Less weights

Adopting a combination of binary mass weights and equal-mass weights to achieve the set mass with the minimum quantity of weight combinations. Non-magnetic stainless steel is used as the weight material, featuring excellent corrosion resistance and wear resistance.

Automatic loading weights

Adopting pneumatic manipulator for automatic loading/unloading of weights, avoiding electromagnetic interference and enabling stable and rapid loading/unloading of weights with required mass.

Specifications

Model	PR-ZD800	PR-ZD1000	PR-ZD1200	PR-ZD1400
Equipment	PR800 series	PR1000 series	PR1200 series	PR1400 series
Pressure range（MPa）	50～800	50～1000	50～1200	50～1400

Min step（MPa）		1	1	1	1
Supercharger stages		3	3	3	3
Full scale pressure time（min）		3	3	4	5
controlled pressure range（MPa）		0~320	0~500	0~640	0~800
Accuracy		0.05	0.05	0.05	0.05
nominal diameter of piston（mm）		2.0/90	2.0/90	2.0/90	2.0/90
deformation coefficient of piston area (Mpa^{-1})		9.800580E-07	9.800580E-07	9.800580E-07	9.800580E-07
nominal piston area（cm^2）		3.17（3.1748）	3.17（3.1748）	3.17（3.1748）	3.17（3.1748）
Level difference（mm）		693/43mm（provisional）	693/43mm（provisional）	693/43mm	693/43mm
Basket & piston	Nominal mass（kg）	16.2	16.2	16.2	16.2
	Nominal pressure（MPa）	50	50	50	50
weight	Nominal mass（kg）	0.3；0.6；1.29；2.6；5.2；10.4；20.7；41.5（6pcs）	0.3；0.6；1.29；2.6；5.2；10.4；20.7；41.5（7pcs）	0.3；0.6；1.29；2.6；5.2；10.4；20.7；41.5（9pcs）	0.3；0.6；1.29；2.6；5.2；10.4；20.7；41.5（10pcs）
	Nominal pressure（MPa）	1；2；4；8；16；32；64；128×6	1；2；4；8；16；32；64；128×7	1；2；4；8；16；32；64；128×9	1；2；4；8；16；32；64；128×10
	Quantity（piece）	13	14	16	17
	Structure	bell+plate	bell+plate	bell+plate	bell+plate
Connection thread		M20×1.5	M20×1.5	M20×1.5	M20×1.5
Structure&Size（L×W×H） Length:operator faces the DWT		Split Loading mass：undetermined Pressure system：1440×585×1100	Split Loading mass：undetermined Pressure system：1440×585×1100	Split Loading mass：undetermined Pressure system：1440×585×1100	Split Loading mass：580×580×2000 Pressure system：1440×585×1100
Power		220V 2kW	220V 2kW	220V 3.5kW	220V 3.5kW

Ambient condition	Temperature 20±2℃ Humidity 50~70%	Temperature 20±2℃ Humidity 50~70%	Temperature 20±2℃ Humidity 50~70%	Temperature 20±2℃ Humidity 50~70%

Main Accessories

Name	Quantity and model
Weight loading system	1 set
Pressure generation system	1 set
Weights	1 set (see calibration certificate or factory calibration record for details)
Piston system	1 set (in small aluminum alloy case)
Power cord	1 piece
Air compressor (air pump)	1 set
Hex wrench	1 set
Adjustable wrench	1 piece (12 inches, 34mm opening)
User manual	1
Certificate of approval	1

Vulnerable Parts

Name	Specifications	Quantity
Air pipe	Φ6mm	10.meters
Pulley belt	Φ5 (annular)	1 piece
Gauge connecting seal ring	Φ12 (OD) × 2.5 (special for 60 and 250MPa)	20.pieces
Piston bottom seal ring	Φ16 (OD) × 2.5 (special for 60MPa)	20.pieces
	Φ8.6 (OD) × 1.8 (special for 250 and 500MPa)	20.pieces