

## Differential pressure balances MP-D-100



### *Intended use*

Verification and calibration of differential pressure instruments: pressure differential transducers, differential manometers used for utilities revenue metering and other differential pressure instruments of accuracy class 0.01 and lower.

Gauge pressure measuring instruments calibration and verification: pressure calibrators, pressure transducers (sensors), standards and manometers, pressure balances, with accuracy class of 0.008 and lower within the range from 0.02 to 10 MPa.

### *Highlights*

High accuracy class: 0.005.

Actual measurement environment simulation for pressure differential transducers installed at narrowing device (diaphragm).

Gauge-pressure precise instruments calibration and verification with pressure from 0.02 to 10 MPa.

Piston-cylinder assembly (PCA) made of tungsten carbide provides for significantly reduced (fourfold) temperature effect on measurement results, long-term stability, wear resistance and durability of the device.

Weights are made of nonmagnetic stainless steel.

Convenient hydraulic system for pressure generation including priming pump (prepressurization pump) and screw press.

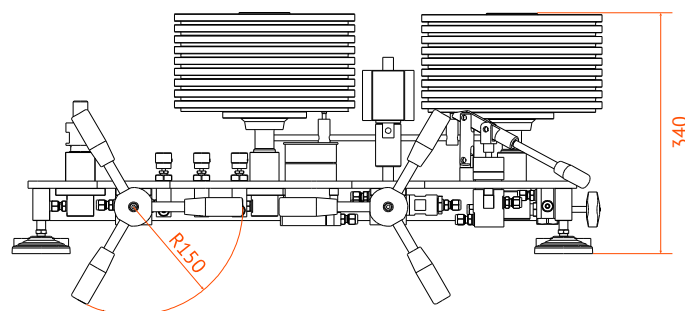
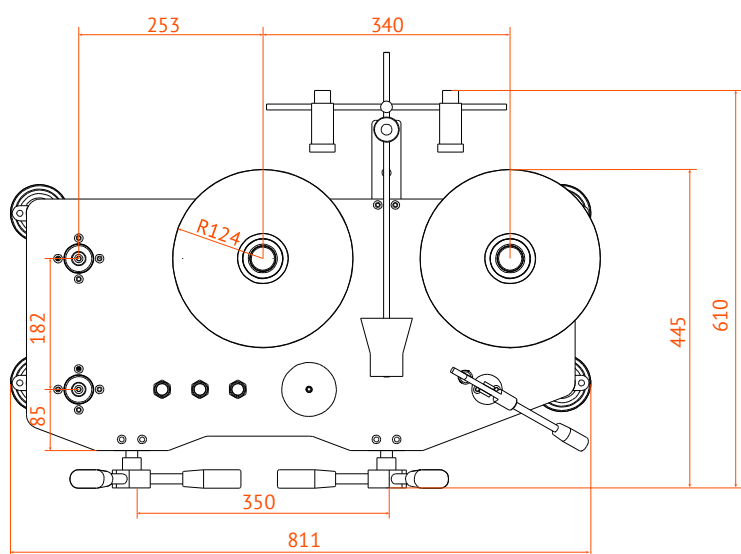
Standard scope of supply includes set of nuts for easy connecting units under test, set of modern sealing for by hand tightening without wrenches needed (for pressure up to 60 MPa), repair kit.

## Main Technical and Performance Data

	Accuracy class	
	0,005	0,01
Static pressure generation range, MPa	0...10	
Differential pressure measurement range, kPa	1...100	
Maximum permissible error of differential pressure measurement at static pressure from 0 to 10 MPa	(5±0,00005 Δp) Pa <sup>1</sup>	(10±0,0001 Δp) Pa
Gauge-pressure measurement range, MPa	0,02...10	
Maximum permissible error of gauge-pressure within the range	±0,005% of value to be measured <sup>2</sup> ±50 Pa <sup>3</sup>	±0,01% of value to be measured <sup>2</sup> ±100 Pa <sup>3</sup>
Device mass, weight kit excluded, kg	45	
Working medium	kerosene	
Nominal area of pistons, sm <sup>2</sup>	0,5	
Nominal mass weights under the standard scope of supply, pc		
0,05 kg	2	
0,1 kg	6	
0,25 kg	2	
0,5 kg	12	
2,5 kg	6	
5,0 kg	16	
PCA	2	
Bell	2	
Plate	2	
Weight kit 1 mg... 100 g	1	

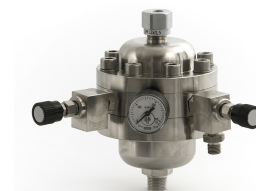
<sup>1</sup> Δp Measured pressure difference. <sup>2</sup> % of value to be measured within the range 1...10 MPa. <sup>3</sup> Within the range 0.02...1 MPa.

## Overall dimensions



Differential pressure balances MP-D may be optionally equipped with phase separators of different types, high-pressure hoses, and other accessories.

RPG liquid/gas phase separator is designed for calibrating such measuring instruments which require to avoid liquid penetration to their internals, including oxygen-based and food devices, as well as special devices. It is mounted directly to hydraulic unit. Supply source is required: gas cylinder or compressor. Max pressure is 25 MPa.



Calibrating procedures according to OIML R-110.

#### Standard package

- pressure generator;
- piston-cylinder assembly in case, 2 pcs;
- electrical motor drive for piston-cylinder assembly;
- electronic statoroscope for pistons equalization;
- kit of weights for nominal mass;
- set of fittings for connection with instruments to be calibrated with the following threads sizes:
- M20×1.5 — 2 pcs; M12×1.5 — 2 pcs; G ½ — 2 pcs; G ¼ — 2 pcs;
- set of sealing rubber-metal rings;
- spare parts kit;
- user manual;
- an initial calibration certificate;
- software for automatic calculation of pressure generated and weights and for simulation of external factors influence on the measurement results.

#### Options

- set of non-standard weights;
- fittings with special threads for connection with instruments to be calibrated.

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