PHA pneumatic diaphragm actuator

West Lake Bay

Product overview

The PHA pneumatic diaphragm actuator is a new pneumatic thin diaphragm actuator designed and developed for the problems based on the problems of old single spring pneumatic diaphragm actuator (such as large size, being heavy and unreliable deep corrugated diaphragm), and its membrane cover plate, limiting piece and other parts are of steel plate punch forming. The diaphragm form is complex, and the special compacting technology is used to make the bursting strength exceed 22kg/cm2. The multiple spring form improves the manufacturability of the spring manufacturing and facilitates the combination of different spring ranges. The adjustable zero function improves the linear precision. The epoxy electrostatic powder is sprayed for surface treatment which is of high fastness and corrosion resistance. It has the advantages, such as uniform stress, good stability, small size and light weight. It can be equipped with such accessories as pneumatic and electrical valve positioner and air filter.

Technical parameters

Part name	Material	Part name	Material
Upper and lower membrane cover	Steel plate	Holder	HT200,ZMXA/B-6O ZG250-450
Convoluted diaphragm	Nitrile butadiene rubber with nylon	Sealing ring for shaft	Polyurethane (used for reaction)
Balance spring	60Si2MnA	Push rod	2Cr13

Product model selection

Model	PHA110	PHA220	PHA230	PHA340	PHA450	PHA560
Travel (mm)	10	10 and 16	16 and 25	40	40 and 60	100
Effective area (cm)	200	350	350	560	960	1600
Air source port size	M10x1				M12x1.25	M16x1.5
Air source pressure	0.14 and 0.25MPa					
Ambient temperature	-30 ~ 60℃					
Spring scope	0.02 ~ 0.10, 0.04 ~ 0.10 and 0.08 ~ 0.24MPa					

Performance index

Item	With locator	Without locator
Intrinsic error %	≤±1	≤±4 (Percentage representation of output stroke)
Return difference %	≤1	≤2.5 (Percentage representation of output stroke)
Dead band error %	≤0.8	≤2.5(Percentage representation of output pressure scope)
Rated travel deviation %	≤±1	±2.5
Starting/ending point deviation %	±0.1	±2.5
Zero transfer volume %	±20	
Membrane compression strength MPa	20 ~ 24	
Working life	Not less than 0.3 million times	

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