3 port solenoid valve DK100

TPC Technical Research Institute

1. Specification and Type

1) Specification (Comparison with other brands)

ITEM		DK100 (TPC)	PLT-10 ("M" Brand)	DR100 (TPC)	Remarks
Fluid		Air	Air	Air	
Flow direction (Starting at the end of body)		P, A, R	P, A, R	A, R, P	
Pressure range(MPa)		0.2 ~ 0.7	0.2 ~ 0.7	0 ~ 0.7	
Ambient temperature and fluid temperature		Max. 50	5 ~ 50	Max. 50	
Operating method		Normal Close	Normal Close	Normal Close Normal Open	
Rated voltage (V)		DC 24	DC 24	DC 24, 12	
Tolerance for voltage		± 10%	± 10%	± 10%	
Power consumption(W)		3 .0 At power saving : (0.35W)	3.0 At power saving (0.3W)	0.85	
Lifespan (Frequency)		More than 50 million times	More than 50 million times	More than 50 million times	
Insulation grade		H	F	H	
Max. Operating frequency (Hz)		More than 22	More than 20	More than 20	
Operating voltage (V)	Pull-in	Less than 20	-	-	
	Drop-out	10 ± 1	-	-	
Response Time (ms)	ORT	Less than 5	-	-	
Flow (ℓ/min)		30	30	18	

Note1) Max. temperature for each insulation grade: 180℃ for H grade, 155℃ for F grade.

Note2) ORT (Open Response Time)

Note3) Max. Operating frequency for 'M' brand's is the result tested by TPC's own research Institute

1. Specification and Type

2) How to order

DK10	1	–	5	P	S	–	–	–	XWL**
	①		②	③	④	⑤		⑥	⑦

① DK100 Series
(10mm width 3 Port valve)

② Coil connecting type

0	Standard Type
1	Coil Reverse Type

③ Voltage

5	DV24V

④ Lead wire

Blank	Without connector (Only for V type)
P	Vertically extended pin type
R	Vertically extended pin type (Asymmetrically positioned)
V	Vertical connector

⑤ PCB Type

S	Insulated type

⑥ Option

Blank	Without Sub plate
M5	Sub plate (M5 x 0.8) (Only for vertical connector type)

⑦ Length of lead wire

Blank	300 mm
XWL01	100 mm
XWL02	200 mm
XWL04	400 mm

	DK101-5PS •Coil Reverse Type •Vertically extended pin type
	DK101-5RS •Coil Reverse Type •Vertically extended pin type (Asymmetrically positioned)
	DK100-5VS •Standard Type •Vertical connector

2. Features and Quality

1) Key features

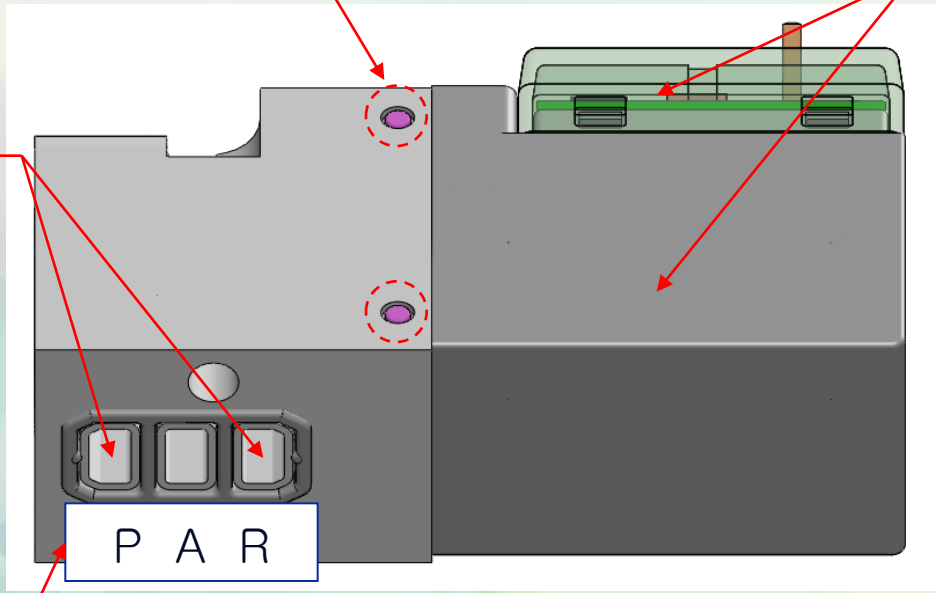
Stable assembly by insulting 2 pins between Body & Coil

Ungraded strength by increasing power consumption / Less heat from coil by applying insulated PCB

Initial power Consumption	3 W
Power after insulation	0.5 W
Saturation temperature	Less than 50℃

High response, high frequency and large flow capacity by enlarging nozzle

P port	Ø1.1
R port	Ø1.3



Flow direction
: Same as "M" brand's

2. Features and Quality

2) Performance test result

Item	Response performance test (ms)				Max. operating frequency (Hz)	Operating voltage test (V)		Flow (ℓ/min) [P→A]	Remarks
	ORT (1%)	COT (99%)	CRT (99%)	CCT (1%)		Pull in	Drop Out		
DK100	3.7	31.0	4.4	36.5	24.1	17.3	10.2	30.1	
DR100	5.8	46.2	5.9	62.2	20.7	17.1	3.3	18.8	
Compared with DR100	36% ↓	33% ↓	25% ↑	41% ↑	16% ↑	-	-	60% ↑	

Note1) ORT : Open Response Time, COT : Complete Open Time, CRT : Close Response Time, CCT : Complete Close Time

Note2) Results of response performance test, max. operating frequency, drop out and flow test are at 5kgf/㎠.

Results of Pull-in(Voltage test) are at 1.5kgf/㎠ .