

## DI Series SPEC Sheet

Model Code DI500-DB-Tm8

Document No. SPEC-XX-9033-00E

Created: M.Sato  
 Approved: T.Shibata  
 DATE: 2005.9.26

DRAWING No.	XX-9033-**AE (Dimensions / Mounting Holes / Label Position)	Cutaway Drawing/Parts List
End Connection	PFA Tube	Cut tube to the required length.
Port Size	(O.D.×I.D.) 8× 6 [mm]	*Note 1*
Media	Ultra Pure Water & Liquid Chemical	Do not use media which attack and damage wetted material.
Self Priming Capability	Water Head 1 [m](MAX) H <sub>2</sub> O	
Media Temperature	10 ~ 40 [ ] Avoid boiling/freezing points.	
Ambient Temperature	10 ~ 60 [ ]	
Recommended Flow Rate	100 ~ 500 [mL/min] H <sub>2</sub> O	Refer to the graph.
Solenoid Valve Cycle Time	1 [sec] *Note 2*	Duty ratio 50%
Air Consumption	See [ Cf. ] p. 3	
Mounting Position	Mount horizontally with the air port located at the top.	
Solenoid Driving Valve	Two 3-way solenoid valves ( not included ) that exceed an orifice area of 4 ( mm <sup>2</sup> ) ( Cv0.2 ) are required for driving the DI.	
Wetted Material	PTFE, PFA	
Related Laws / Regulations	From 1/1/2003, this product does not correspond under article 3 of strategic materials, which is regulated by the Foreign Exchange and Foreign Trade Control Act.	

\*Note 1\* Note that the discharge rate will decrease if the suction side is restricted smaller ( in diameter ) than the port size.

\*Note 2\* When DI is used with the HICV, and the downstream orifice size is 1, set the solenoid valve cycle time to 0.8 seconds.

## [ Maximum Discharge Pressure ]

Drive Air Pressure [MPa]	Maximum Discharge Pressure [MPa](MAX)
0.3	0.3
0.4	0.4

Use under the condition where the primary pressure does not exceed the drive air pressure.

Do not let the discharge pressure of DI exceed the maximum specification of 0.4MPa.

When primary pressure is applied, the discharge pressure from DI increases compared to when primary pressure is not applied.

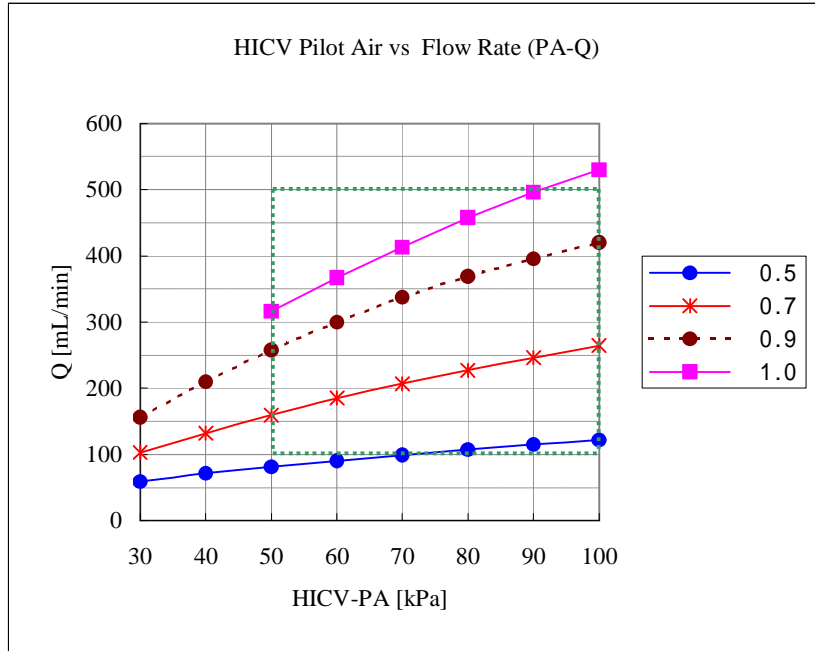
Confirm the discharge pressure from DI ( within actual system ) when using in the case where primary pressure is applied.

Revision No.	Note	Date	Revision	Approval

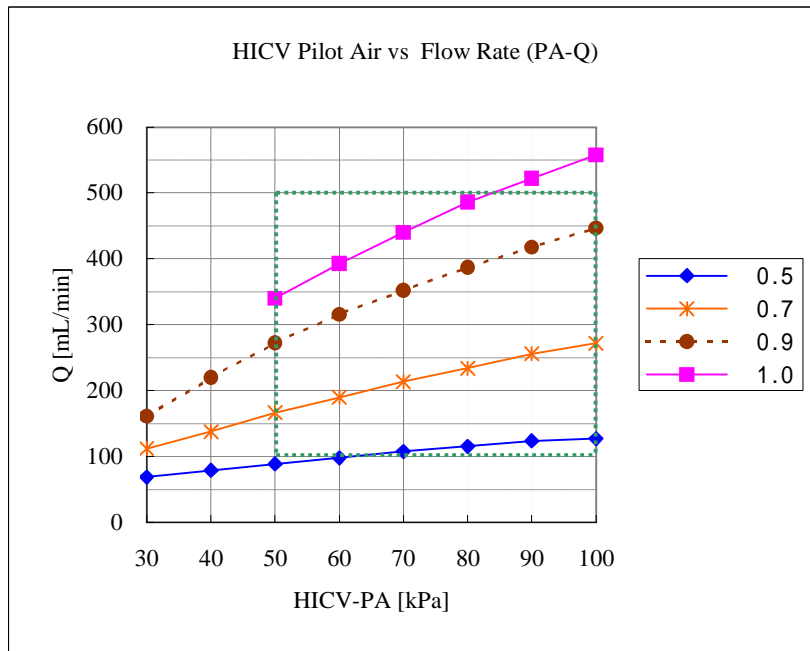
[ Flow rates of a DI500/HICV combination during various restrictions ]

Sample Type No. DI500-CB-Tm8 HICV-065Tm8-131

• Drive Air Pressure of DI set @ 0.3MPa



• Drive Air Pressure of DI set @ 0.4MPa



The above graph shows data of DI500 ( suction of DIW ) in combination with the HICV ( performing regulation ). Flow curves within the dotted line boundary represent recommended range.

DI has been designed to optimize the HICV. Although DI is equipped with a pulsation damper function, it does not control pressure. The HICV performs the pressure control.

Refer to the HICV series instruction manual regarding performance and specifications of the HICV.

[ Flow rates with only an orifice set on the discharge side of DI500 ]

- Drive Air Pressure of DI set @ 0.3MPa

Orifice [mm]	Flow Rate [L/min (ANR)]
0.5	210
0.7	425
1.0	875

- Drive Air Pressure of DI set @ 0.4MPa

Orifice [mm]	Flow Rate [L/min (ANR)]
0.5	235
0.7	480
1.0	985

The above data is for reference.

The flow rate fluctuation is approximately  $\pm 20$  mL/min when an orifice is set on the discharge side of DI500.

Flow rate depends on the piping conditions. It is recommended to confirm as needed under the actual system.

When less restriction is applied on the downstream, cavitations and pulsations can occur. It is recommended to confirm as needed under the actual system.

It is recommended to apply the HICV with DI for superior stabilization of flow supply.

[ Air Tube Length/Air Consumption ]

Utilized Air Tube Size ( O.D.×I.D. ) 6× 4

- Drive Air Pressure of DI set @ 0.3MPa

Tube Length [cm]	Air Consumption [L/min (ANR)]
50	13
100	16
150	18
200	21

- Drive Air Pressure of DI set @ 0.4MPa

Tube Length [cm]	Air Consumption [L/min (ANR)]
50	20
100	24
150	28
200	32