MiDP Valves

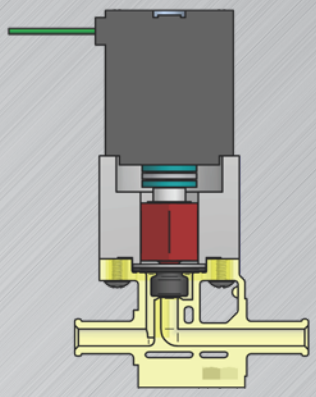
2-Port S390/S391 Stepper Operated Inert Diaphragm Poppet Proportional Valves

Introducing Humphrey MiDP Series Proportional Valves, designed to precisely control flow of a wide range of aggressive liquids and gases. The wetted flow path utilizes Humphrey's 350 Series diaphragm isolated design with medical industry proven reliability (20+ years), including applications such as kidney dialysis and endoscope reprocessing. Safely isolated from the media is Humphrey's new stepper motor operator delivering precise positioning and control of flow, with outstanding repeatability and low hysteresis.

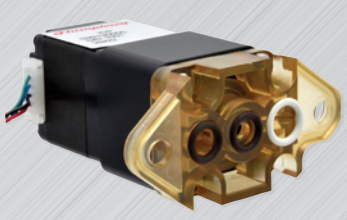
A perfluoroelastomer (FFKM) highlights the range of diaphragm materials available, housed within an inert Radel® body.

FEATURES

- Field proven and reliable diaphragm separated body construction of the Humphrey 350 Series iDP Valves.
- Inert wetted flow path of a Radel® body and either FFKM, EPDM, or Viton™GF diaphragms ensures broad chemical and temperature compatibility.
- Extremely repeatable variable flow control. Expect 2% or less of full scale.
- Precise. Hysteresis measured at <2%. Open loop control applications are possible.
- Not susceptible to cavitation / water hammer (liquids).
- Low or zero holding current when positioned.
- Long life. Expect >1 million cycles.
- Custom performance configurations are available (consult factory).
- Inline/direct piping and Manifold/subbase mount bodies available.

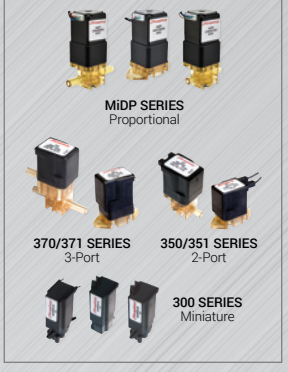


S390
2-Port
Inline, Direct Piping



S391
2-Port
Manifold Mount

iDP Valve Family



Scan for additional product details on our online catalog.

How to Order

MiDP S390/S391 Series

S390	4	1	0	5	0	S39041050
MODEL	**BODY/SEALS**	**BODY STYLE (IN-OUT)**	**ORIFICE**	**ORIENTATION**	**OPTIONS**	**ORDER EXAMPLE**

MODEL
S390: Inline
S391: Manifold

BODY/SEALS
3: Radel®-EPDM
4: Radel®-Viton™GF
5: Radel®-FFKM

BODY STYLE (IN-OUT)
0: Manifold (No Barbs)
1: Barb-Barb
5: 8mm-8mm (5/16") (Quick Disconnect)

ORIFICE
0: Inline (0.150")
1: Manifold STD (0.150")
2: Manifold (0.094")
3: Manifold (0.050")

ORIENTATION
5: Standard
7: Rotate 180°

OPTIONS
0: Standard

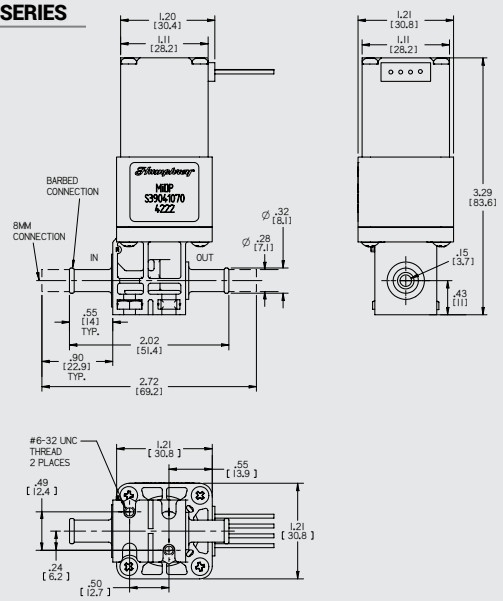
ORDER EXAMPLE

MiDP Valves
2-Port S390/S391 Series

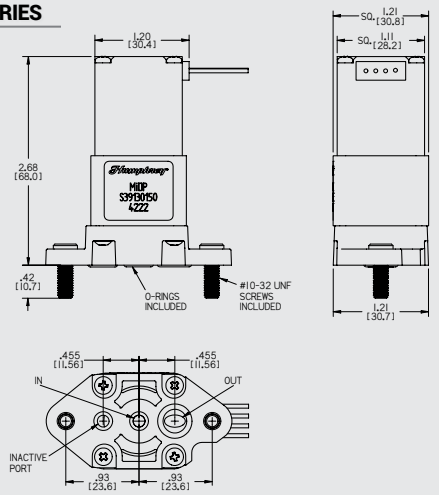
SPECIFICATIONS	MiDP S390, MiDP S391
TYPE OF OPERATION	Stepper Motor, Media Isolated
MEDIA	Aggressive Liquid or Gas
PRESSURE RANGE – PSI (BAR)	0 - 60 (0 - 4.1)
TYPICAL HYSTERESIS	< 2%
TYPICAL FLOW RANGE (0.150" ORIFICE)	0-8.5 SLPM Water / 0-325 SLPM Air @ 60 PSI
TYPICAL FLOW ADJUSTMENT PER STEP @ 40 PSI (0.150" ORIFICE)	AIR: 5.3 SLPM
Cv (0.150" ORIFICE)	0.31
AMBIENT TEMPERATURE	0 - 50°C
FLUID TEMPERATURE	0 - 95°C
CYCLE TIME (TYP) – OPEN TO CLOSE OR CLOSE TO OPEN	2 seconds
CYCLE LIFE (TYP)	> 1 million
STEP RESPONSE TIME (TYP)	< 40 milliseconds
REPEATABILITY (TYP)	< 2% of full scale
STROKE (in)	0 - 0.024
POSITION RESOLUTION (in)	0.0004 / STEP
WETTED MATERIAL	Radel® and EPDM, Viton™GF, FFKM
POWER CONSUMPTION (WATTS)	2.6 MAX
CURRENT / PHASE	600 mA standard; Consult factory for other.
DRIVER (CUSTOMER SUPPLIED)	Chopper or linear driver required.

DIMENSIONAL DRAWINGS

S390 SERIES



S391 SERIES



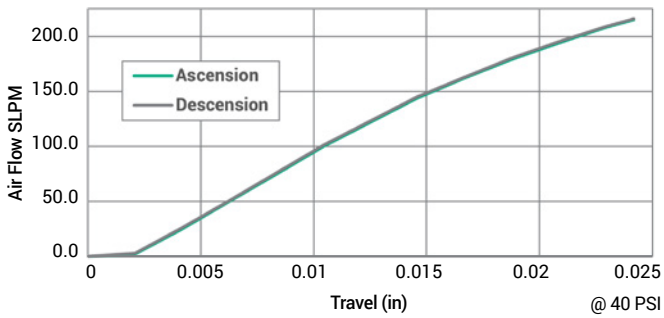
MEDIA COMPATIBILITY

- Citric Acid
- Formaldehyde
- Biological Solutions
- Sodium Hypochlorite
- Dextrose/Sugars
- Dialysate
- Hydrogen Peroxide
- Acetic Acid
- Bleach/Lye
- Most aggressive medias

APPLICATIONS & MARKETS

- Kidney Dialysis
- Diagnostic Systems
- Environmental Monitoring
- Food and Beverage
- Gaseous Flow Control
- Water Purification
- Clinical Equipment Waste Systems
- Ratio Control of Mixing Multiple Liquids
- Dosing Additives for Process Control

MiDP S390/S391 Typical Air Flow vs. Stroke 0.150" Orifice



Certified: ISO 9001:2015

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Humphrey Life Science Group

Printed in U.S.A.
LDSMIDP23

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