

Humphrey[®]

153 SERIES

Balanced Solenoid Valve



A privately owned US company since 1901.

www.humphrey-products.com

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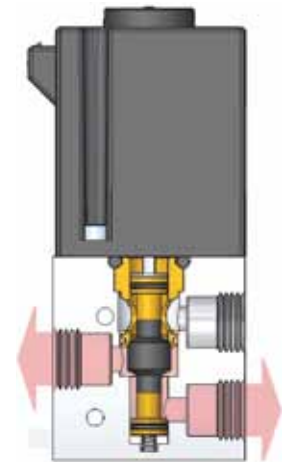
153 SERIES

Humphrey introduces the 153 SERIES, our next generation of balanced poppet, direct acting solenoid valve technology. Now smaller in size with greater flow capacity, the balanced design of the 153 achieves a universal valve functionality, IE:

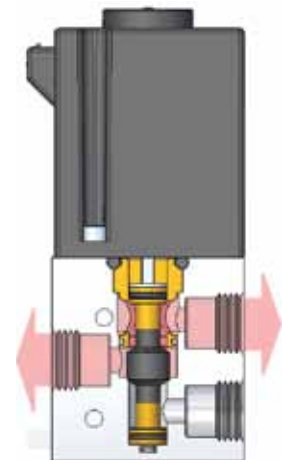
- **MULTI-PURPOSE.** Apply any 153 Series as Normally Closed or Normally Open, 2- or 3-way, Diverter or Selector valve, or whether the media is vacuum, or the full pressure range of 0 to 125psi.
- **MULTI-MEDIA.** The 153 Series' balanced poppet design performs whether the media is air or inert gases, clean, dry, lubricated, or contains some airline impurities.
- **RELIABLE SHIFT, TIGHT SEAL.** Internal forces generated by the pressurized media are neutralized. Thus, the shifting forces of the coil and return spring are optimized and need only seal the poppet to our tight leakage specifications.
- **HIGH FLOW CAPACITY.** Internal flow path management has been maximized. Coupled with the balanced design and an optimized solenoid magnetic circuit, significantly greater flow, within a reduced overall size, has been achieved.
- **USE-ABILITY.** The media and porting are isolated from the solenoid. Additionally, all electric and pneumatic connections are on opposing surfaces, minimizing total space occupied, and simplifying mounting and connections during installation.



BALANCED POPPET CONSTRUCTION



Unactuated

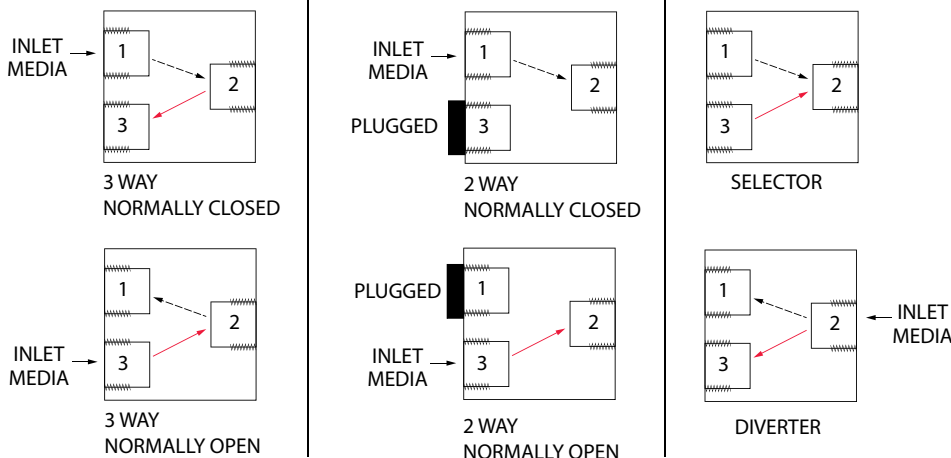


Actuated

FEATURES

- Small Size – 15mm width
- High Flow – 0.25 Cv
- Light weight, low mass
- Multi-purpose function
- Impervious to media conditions
- Low Leakage – maximum 4ccm @ 100psi
- No lubrication required
- Long service life
- Unaffected by pressure fluctuations
- RoHS compliant materials

153 PORTING DIAGRAMS



Black line indicates actuated flow path; Red line indicates unactuated flow path.

Specifications, Schematics, Drawings

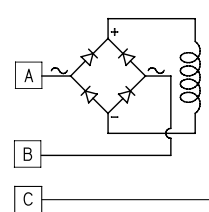
MECHANICAL SPECIFICATIONS

Type of Operation	Direct Solenoid
Function	3-port, Multi-Purpose
Ports	1/8 Pipe
Override	No override – standard. Non-Locking – option.
Media	Air (Dry or Lubricated), Inert Gases, Vacuum
Pressure Range	Vacuum to 125 psi
Ambient Temperature Range	32° to 125°F (0° to 50°C)
Flow @ 100psi (Cv)	15 SCFM (0.25)
Max Leakage (@ 100psi)	<4ccm
Lubrication	Not required. If used, ensure compatibility with Buna materials.
Filtration	40 micron, recommended
Weight	.21 lbs (100 grams)
Wetted Materials	Brass, Buna, Aluminum, SST

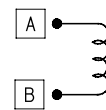
ELECTRICAL SPECIFICATIONS

Standard Voltages	12VDC, 24VDC, 120/50/60
Electrical Entry	<ul style="list-style-type: none"> Plug-in w/12" lead wire DIN Connection (order HS2 receptacle separately)
Voltage Tolerance	+10%, -15%
Coil Temperature Rise	90°F (32°C)
Response Time (On/Off)	DC: 12/6ms AC: 8/35ms
Power Consumption	4 watts DC; 4.8 watts AC
Insulation	Class B

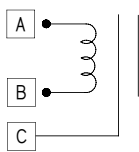
AC SCHEMATIC



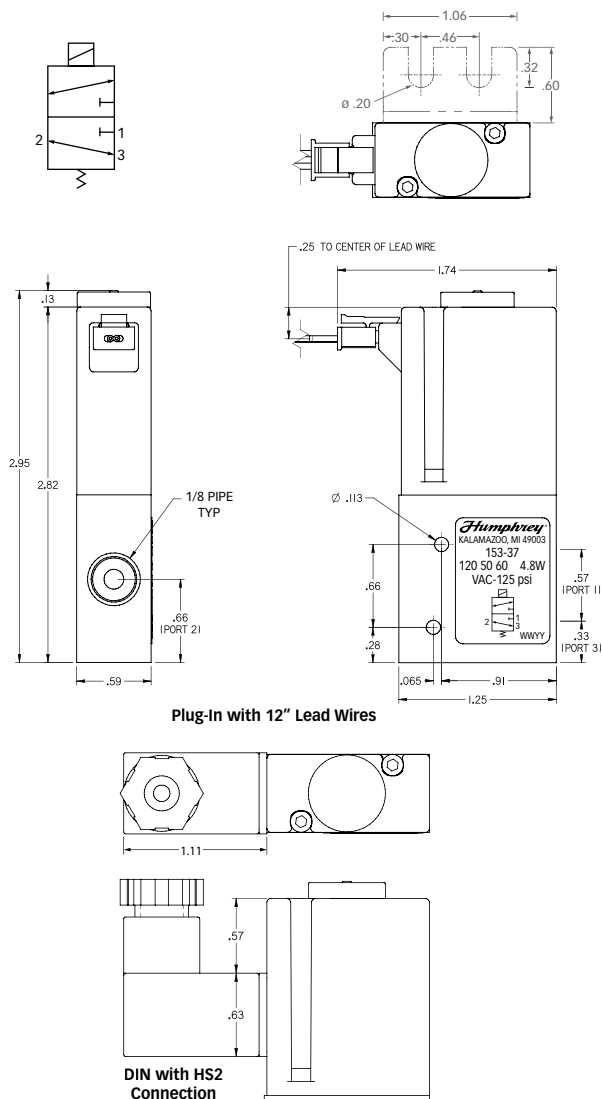
DC SCHEMATIC



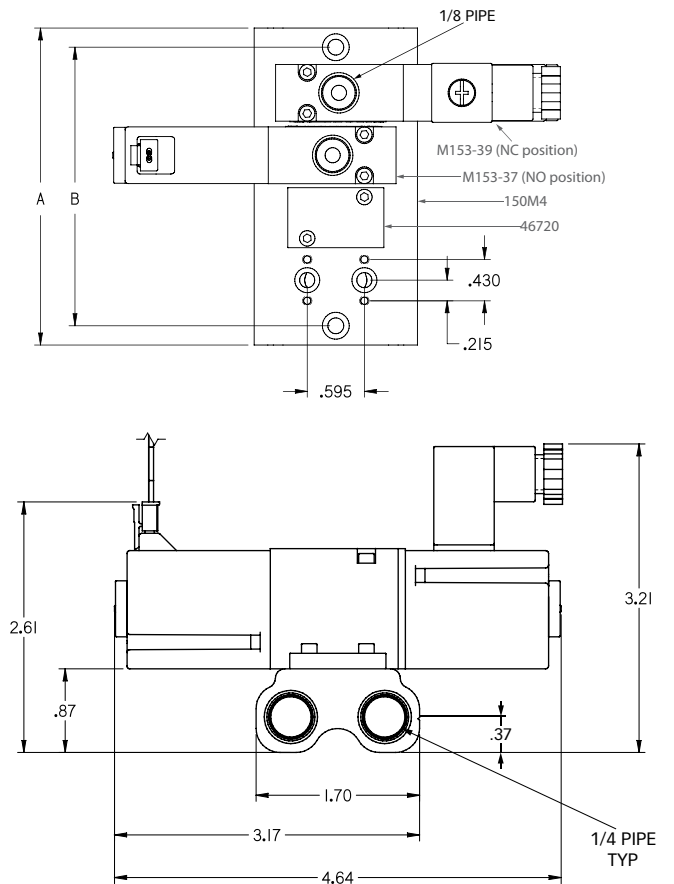
DC DIN SCHEMATIC



153 DIMENSIONAL DRAWINGS AND SCHEMATIC



M153 MANIFOLD DIMENSIONAL DRAWINGS



Number of Stations	A	B
2	2.00	1.60
4	3.30	2.90
6	4.60	4.20
8	5.90	5.50

HOW TO ORDER

VALVE MODEL	ELECTRICAL ENTRY		OVERRIDE		Rotate Coil 180°	VOLTAGE*			DESCRIPTION
	L-Type Plug-In w/ Lead Wires	DIN Type	No Override	Non-Locking		12VDC	24VDC	120/50/60*	
153	-37	-39	•	-80	-RC	Specify Voltage			15mm, 3-way, Inline Valve
M153									15mm, 3-way, Manifold Valve

* - 120/50/60 voltage available in DIN-type, code 39 only.

• Standard Offering (no code necessary)

Valve Accessories

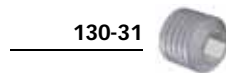


ACCESSORIES – VALVES

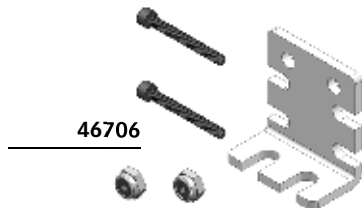
Model	Description	Notes
46706	Mtg Bracket	Accepts one 153 model valve.
130-31	1/8 Pipe Plug	Plug 1 or 3 port on 153 models for 2-way.
HS-2	DIN	Receptacle for (M)153-39 models.
HS-2LED-(voltage)	DIN w/LED light	
HS-2CLL	DIN w/2000mm cable	
46669	Wire Connector	Receptacle for (M)153-37 models (replacement).



HS2-LED



130-31



46706



HS2



46669

Manifolds and Accessories



MANIFOLDS

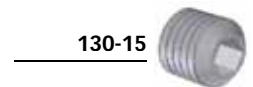
Model	Description	Notes
150M2	2-stn	1/4 Pipe, Supply and Exhaust ports each end.
150M4	4-stn	
150M6	6-stn	Accepts M153 valve models.
150M8	8-stn	

ACCESSORIES – MANIFOLDS

Model	Description	Notes
DRC	DIN Rail Clip	Kit, includes (2) brackets and (2) screws.
130-15	1/4 Pipe Plug	Plug for manifold Supply and Exhaust ports.
46720	Block-Off Plate	Includes plate, (2) gaskets and (2) screws.
46672	Valve Mtg. Kit	Includes (2) brackets and (2) screws (replacement).
46770	Plugging disc for 2-way valve function	Sold in bag of 10 for M153 valves only. Place 1 disc between manifold and valve-to-manifold-gasket, in exhaust path.



46720



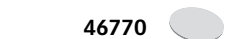
130-15



46672



DRC



46770