

# MICRO-MINI HYdraulics, Inc.

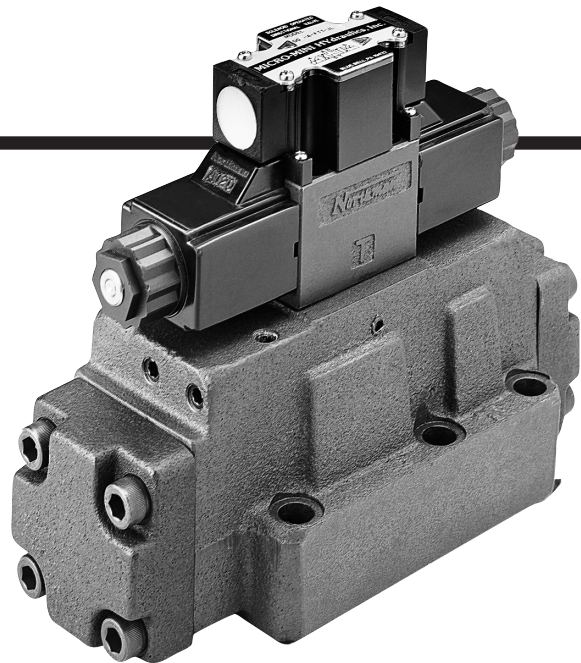
## D08 DIRECTIONAL VALVES

### QUICK REFERENCE

#### Mounting Interface

#### NFPA-D08

- Nominal Flow – 80GPM  
Maximum Flow – 133 GPM  
(See chart for typical flow and pressure limits.)
- Pilot Pressure - 65 PSI MIN.  
3000 PSI MAX.
- Temperature Range  
Recommended 100° - 140° F  
Maximum -5° - 190° F
- Wet Armature Solenoids  
Plug-in-Coils
- Maximum Pressure Ports  
P-A-B – 4500 PSI  
T – 3000 PSI externally drained  
1000 PSI internally drained



- Filtration Requirements  
up to 3000 PSI  
ISO 4406 20/6  
above 3000 PSI  
ISO 4406 18/14
- Viscosity Range  
Recommended 77 - 245 SUS  
Maximum 60 - 4000 SUS
- Manual Solenoid Override

## ORDERING INFORMATION

**D08 - A - FFF - EP - ID - JL - A120 - SC - V - Z**

**MOUNTING  
INTERFACE**

**DESIGN**

**SPOOL FUNCTION  
AND TYPE**

(see Chart on next page)

**EP = Ext. Pilot, IP = Int. Pilot**

**ID = Int. Drain, ED = Ext. Drain**

**WIRING CONNECTION**

JL = Junction Box with indicating Light  
DN = Hirschmann Type (DIN) with indicating light

**SHIFT SPEED  
CONTROL**

**INTERFACE SEALS**  
Omit = Buna N / V = Viton

**SURGE CONTROL OPTION**  
for DC voltage coils

**COIL VOLTAGE**

A120 = AC120V, 60 Hz; AC 110V/50Hz  
A240 = AC240V, 60 Hz; AC 220V/50Hz  
R120\* = AC120V, 60 Hz; AC 110V/50Hz  
R240\* = AC240V, 60 Hz; AC 220V/50Hz  
D12 = DC12; D24 = DC24

\*Note: R120 & R240 coils contain  
rectifier to operate valve on DC voltage.

Contact factory for other voltages.

**MICRO-MINI HYdraulics, Inc.**  
Blue Bell, Pennsylvania 19422

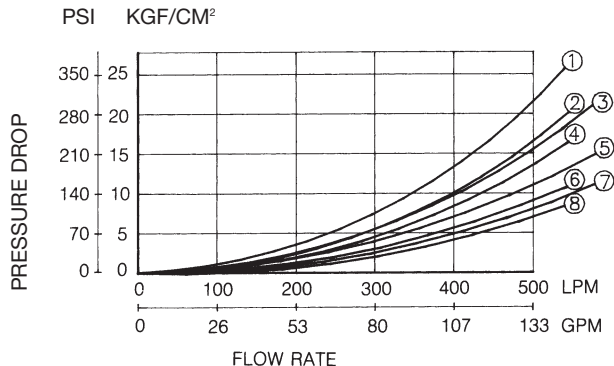
**D08  
DIRECTIONAL  
VALVES**



# PRESSURE DROP CURVES

Fluid Viscosity: 35cst (175 ssu)

## PERFORMANCE CURVES



## VISCOSITY FACTORS

Viscosity	CST	15	20	30	40	50	60	70	80	90	100
	SSU	77	98	141	186	232	278	324	371	417	464
Factor		0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30

The pressure drop ( $\Delta P'$ ) can be obtained from the formula  $\Delta P' = \Delta p(G'/0.85)$  for other specific gravity ( $G'$ ).

MODEL NO.	Pressure Drop Curve Number				
	P->A	B->T	P->B	A->T	P->T
FC	8	5	8	7	-
FO	6	4	6	7	6
FFF	8	5	8	7	-
FFFX	8	5	8	7	-
FFO1	8	4	5	7	2
FTTO	5	1	5	4	3
FTTC	6	5	6	7	3
FOP	6	5	6	7	-
FF1	8	5	8	7	-
FOP1	8	4	5	7	-
MC	8	5	8	7	-
MO	6	4	6	7	-
JC	8	5	8	7	-
JO	6	4	6	7	-
JP	5	-	8	-	-
GC	8	5	8	7	-
GO	6	4	6	7	-
GP	8	-	5	-	-

## SPOOL FUNCTIONS

Double solenoid valves, 3 position, spring centered

APPLICATION	TYPE	GRAPHIC SYMBOLS
THREE POSITION SPRING CENTERED	FC	
	FO	
	FFF	
	FFFX	
	FFO1	
	FTTO	
	FTTC	
	FOP	
	FF1	
	FOP1	
	FFO2	
	FF2	
	FOP2	

Single solenoid valves, 2 position, solenoid B

APPLICATION	TYPE	GRAPHIC SYMBOLS
TWO POSITION SPRING OFFSET	JC	
	JO	
	JP	
TWO POSITION SPRING CENTERED	JFC	
	JFO	
	JFFF	
	JFFFX	
	JFFO1	
	JFTTO	
	JFTTC	
	JFOP	
	JFF1	
	JFOP1	

Single solenoid valves, 2 position, solenoid A

APPLICATION	TYPE	GRAPHIC SYMBOLS
TWO POSITION SPRING OFFSET	GC	
	GO	
	GP	
TWO POSITION SPRING CENTERED	GFC	
	GFO	
	GFFF	
	GFFFX	
	GFFO1	
	GFTTO	
	GFTTC	
	GFOP	
	GFF1	
	GFOP1	

Double solenoid valves, 2 position, detented

APPLICATION	TYPE	GRAPHIC SYMBOLS	APPLICATION	TYPE	GRAPHIC SYMBOLS
TWO POSITION DETENT	MC		TWO POSITION DETENT	MO	

### PORT INTERCONNECTION:

- With solenoid "a" energized P->A B->T
- With solenoid "b" energized P->B A->T
- Both port interconnections are reversed for FF01, FF02, FTTO, and FTTC type.