



INDUSTRIAL FLUID POWER COMPONENTS
AND SYSTEMS



L SERIES

Cartridge Valves



Overview



Specifications

VALVE	MODEL	TYPE	OPERATING PRESSURE	CAVITY	FLOW PATH	FLOW RATING (GPM) ΔP=75psi
SOLENOID	LSV2-08-2NCP	Poppet, 2 Way, 2 Position	3625 psi	08-2	2	5
	LSV2-08-2NCS	Spool, 2 Way, 2 Position	3000 psi	08-2	2	4
	LSV2-08-2NOP	Poppet, 2 Way, 2 Position	3625 psi	08-2	2	6
	LSV2-08-3	Spool, 3 Way, 2 Position	3000 psi	08-3	3	3
	LSV2-10-3	Spool, 3 Way, 2 Position	3000 psi	10-3	3	4
CHECK	LCV-08-P	Direct Acting, Poppet	3625 psi	08-2	2	5
	LCV-10-P	Direct Acting, Poppet	3625 psi	10-2	2	11
	LPC-10	Pilot to Open, Poppet	3625 psi	10-3	3	5
	LDPC-08	Dual Pilot-Operated	3000 psi	08-4	4	4
NEEDLE	LNV-08	Adjustable	3625 psi	08-2	2	4
SHUT OFF	LS-08	Adjustable	3625 psi	08-2	2	12
FLOW CONTROL	LFC-08	Adjustable	3625 psi	08-2	2	8
	LPFR-10	Regulator, Pressure-Compensated	3625 psi	10-3	3	
RELIEF	LRV-08	Adjustable, Direct Acting	3915 psi	08-2	2	4
	LBRV2-10	Adj., Direct Bi-Directional-Cross Port	3480 psi	10-2	2	
	LPSRV2-08	Adj., Pilot Op., Sliding Spool	5075 psi	08-2	2	
	LPSRV-10	Adjustable, Pilot Operated	5075 psi	10-2	2	
SHUTTLE	LSLV-08/10	Ball	3480 psi	10-3	3	4
PRESSURE REDUCING/RELIEVING	LDPR-10	Direct Acting	3000 psi	10-3	3	6
COUNTERBALANCE	LCB-CA-H		3100 psi		3	8

Solenoid Valves

2 Way, 2 Position, Spool/ Poppet Type - 08 Cavity



Specifications

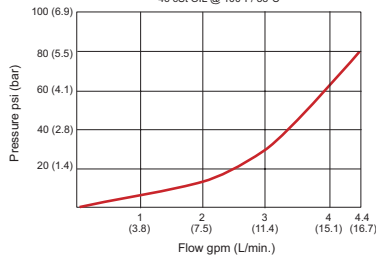
- Operating Pressure:** 3000-4000 psi (207-275 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Coil Rating:** Continuous from 85% to 100% of rated voltage
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** ISO 16/12
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

Features

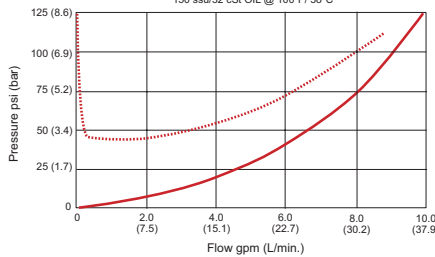
- Continuous Duty Solenoid
- Efficient Wet-Armature Construction
- Optional Coil Voltages and Terminations
- Industry Common Cavity
- Compact Size

Pressure Drop Curves

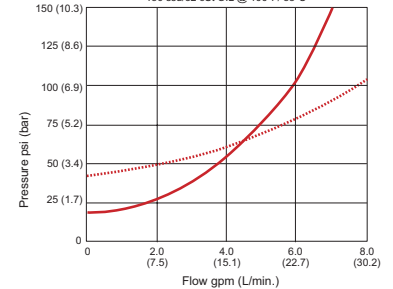
LSV2-08-2NCS Energized
46 cSt OIL @ 100°F/ 38°C



LSV2-08-2NOP 2 To 1 — 1 To 2
150 ssu/32 cSt OIL @ 100°F/ 38°C



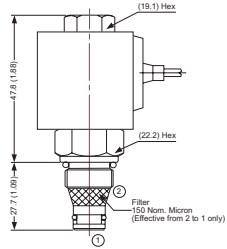
LSV2-08-2NCP 2 To 1 — 1 To 2
150 ssu/32 cSt OIL @ 100°F/ 38°C



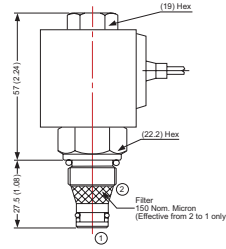
Dimensional Data

Units: mm (inch)

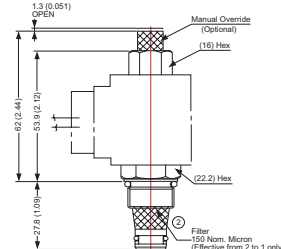
LSV2-08-2NCS



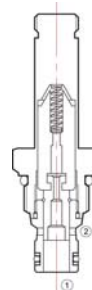
LSV2-08-2NOP



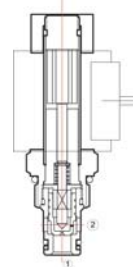
LSV2-08-2NCP



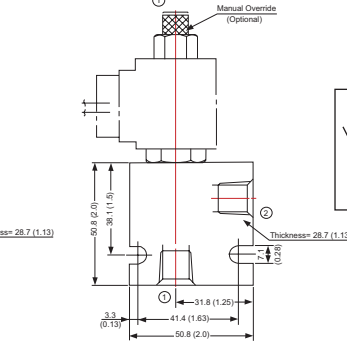
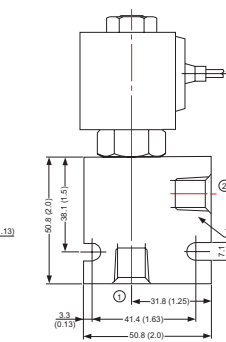
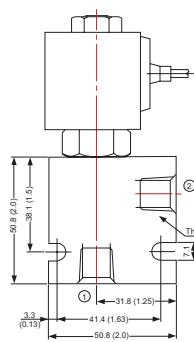
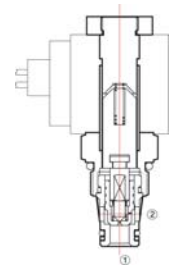
LSV2-08-2NCS



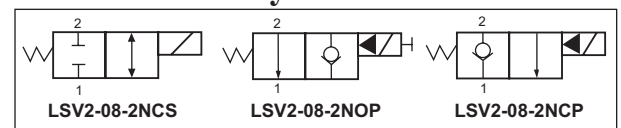
LSV2-08-2NOP



LSV2-08-2NCP

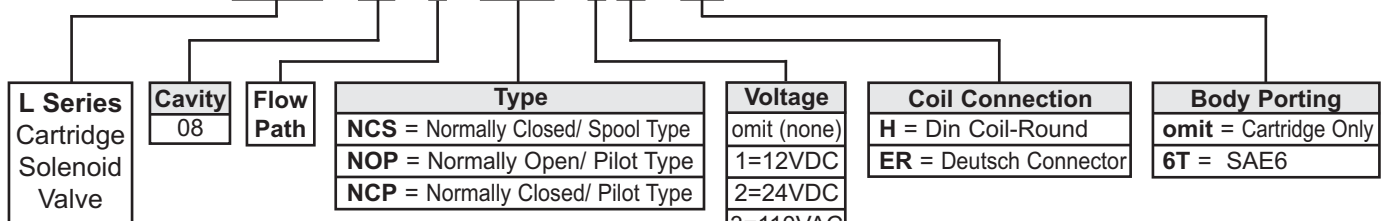


Symbols



Ordering Information

LSV2 - 08 - 2 - NCS - 3 H - 6T



Solenoid Valves

2 Way, 2 Position, Spool/ Poppet Type - 10 Cavity



Specifications

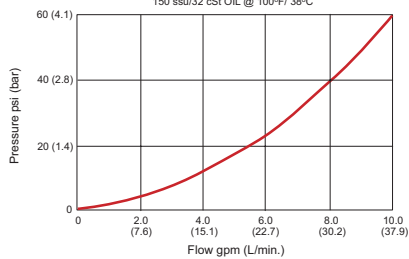
- Max. Operating Pressure:** 4350 psi (300 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Coil Rating:** Continuous from 85% to 100% of rated voltage
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** ISO 16/12
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

Features

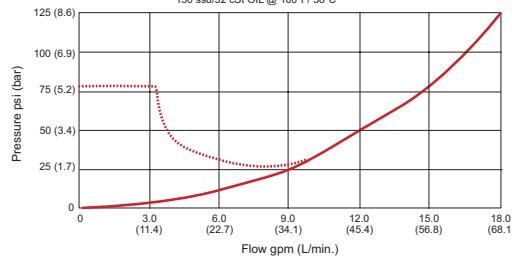
- Continuous Duty Solenoid
- Efficient Wet-Armature Construction
- Optional Coil Voltages and Terminations
- Industry Common Cavity
- Compact Size

Pressure Drop Curves

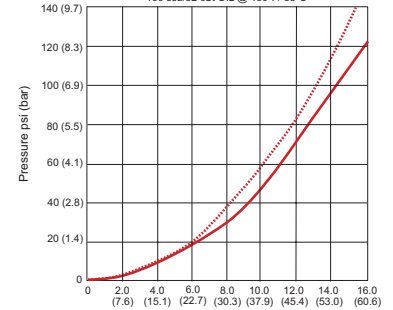
LSV2-10-2NCS 2 To 1 or 1 To 2 (Energized)
150 ssu/32 cSt OIL @ 100°F/ 38°C



LSV2-10-2NOP 2 To 1 — 1 To 2
150 ssu/32 cSt OIL @ 100°F/ 38°C

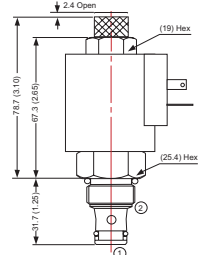


LSV2-10-2NCP 2 To 1 — 1 To 2
150 ssu/32 cSt OIL @ 100°F/ 38°C

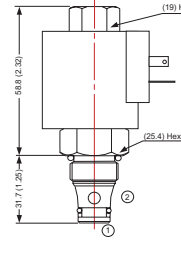


Units: mm (inch) Dimensional Data

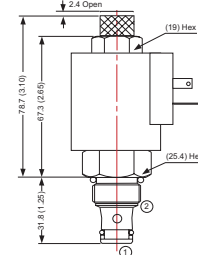
LSV2-10-2NCS



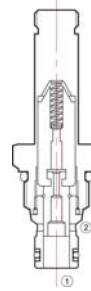
LSV2-10-2NOP



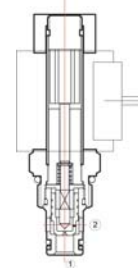
LSV2-10-2NCP



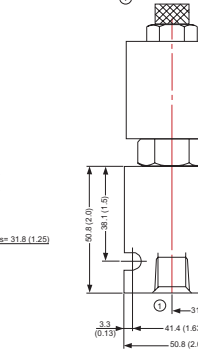
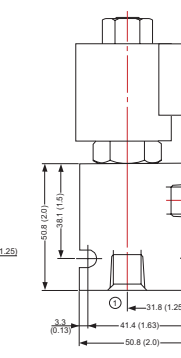
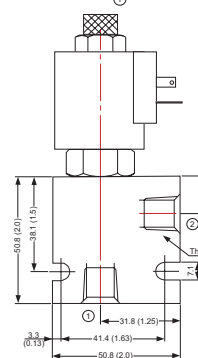
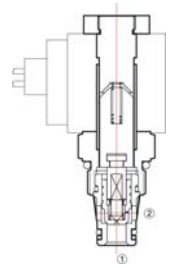
LSV2-10-2NCS



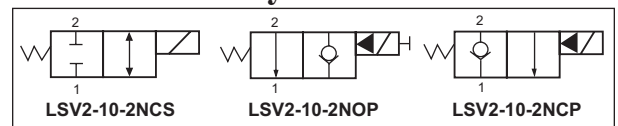
LSV2-10-2NOP



LSV2-10-2NCP

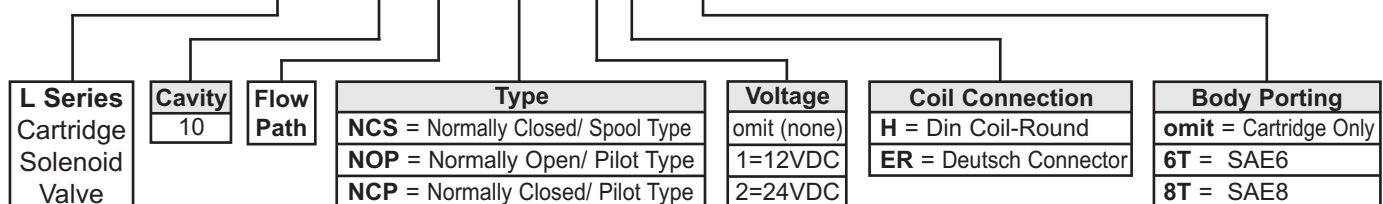


Symbols



Ordering Information

LSV2 - 10 - 2 - NCS - 3 H - 6T



other voltages available

Solenoid Valves

3 Way, 2 Position, Spool Type - 08 or 10 Cavity

Specifications

- Operating Pressure:** 3000 psi (207 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Coil Rating:** Continuous from 85% to 100% of rated voltage
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** ISO 16/12
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

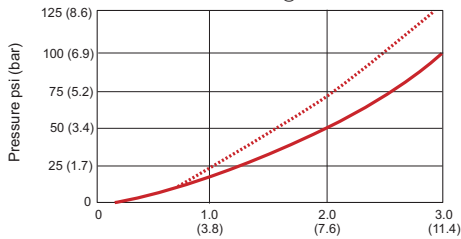
Features

- Continuous Duty Solenoid
- Efficient Wet-Armature Construction
- Optional Coil Voltages and Terminations
- Manual Override Option
- Industry Common Cavity
- Compact Size

Pressure Drop Curves

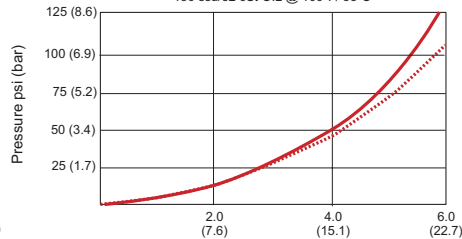
LSV2-08-3

3 To 1 (Energized)
2 To 1 (De-Energized) ———
150 ssu/32 cSt OIL @ 100°F/ 38°C



LSV2-10-3

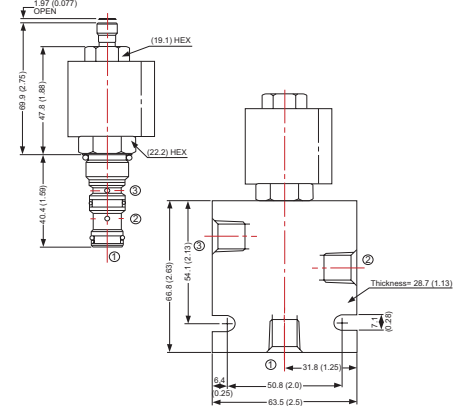
3 To 1 (Energized) ———
2 To 1 (De-Energized)
150 ssu/32 cSt OIL @ 100°F/ 38°C



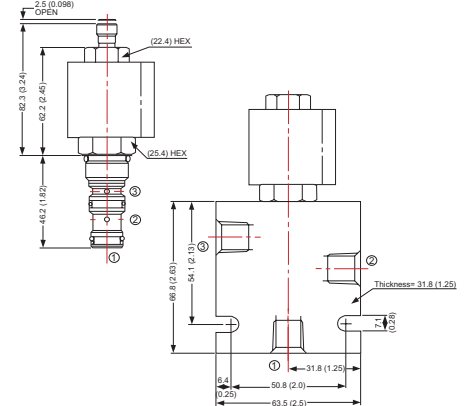
Dimensional Data

Units: mm (inch)

LSV2-08-3



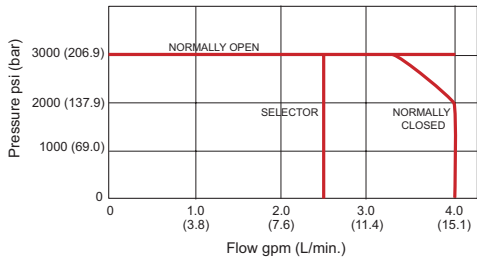
LSV2-10-3



Performance Characteristics

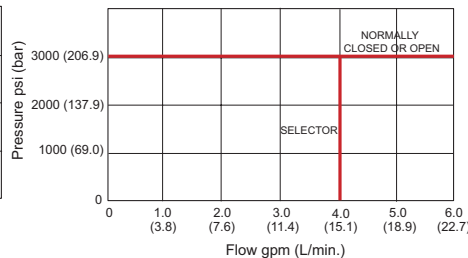
LSV2-08-3

150 ssu/32 cSt OIL @ 100°F/ 38°C

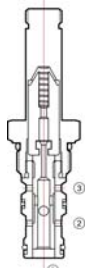


LSV2-10-3

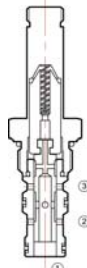
150 ssu/32 cSt OIL @ 100°F/ 38°C



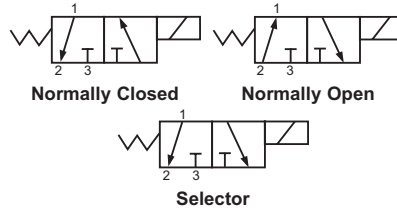
LSV2-08-3



LSV2-10-3

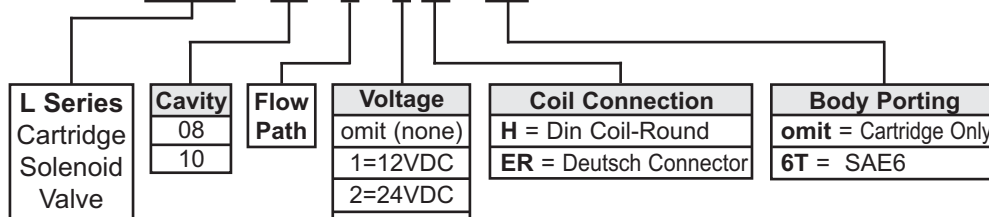


Symbols



Ordering Information

LSV2 - 10 - 3 - 3 H - 6T



other voltages available

Check Valves

SAE6 & SAE8



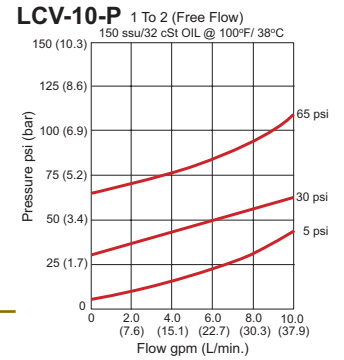
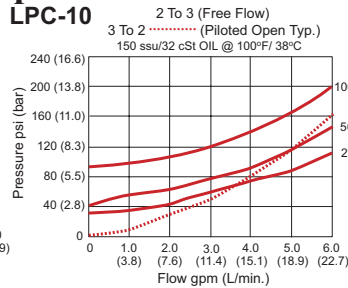
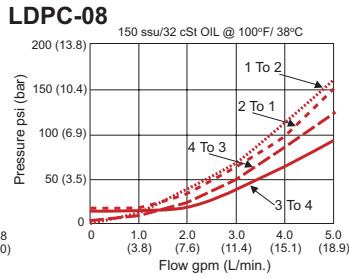
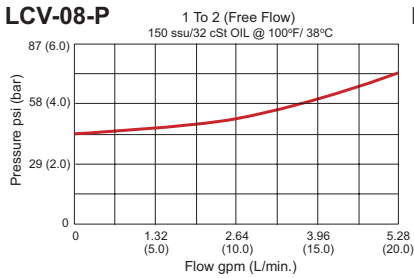
Specifications

- Operating Pressure:** 3000-3625 psi (207-250 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Critical Application:** ISO 16/12
Filtration: Non-Critical Application: ISO 19/15
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

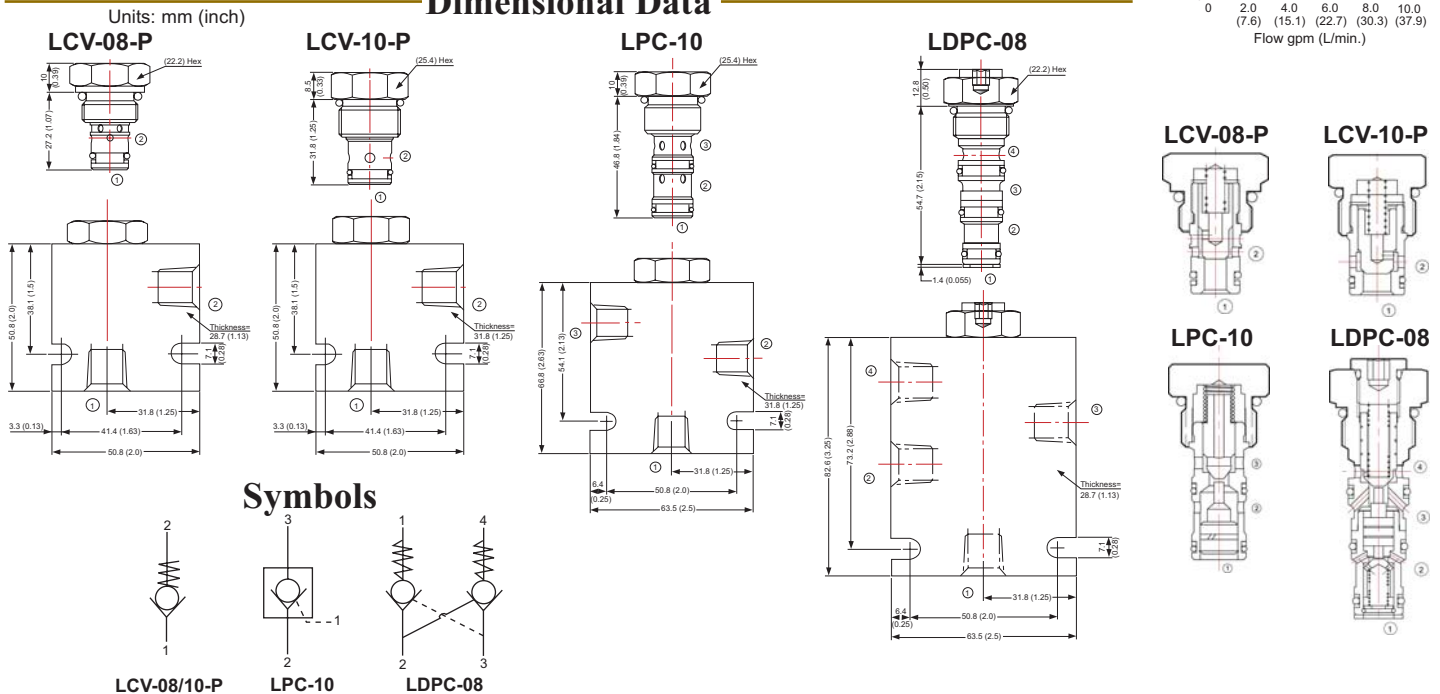
Features

- Hardened Poppet and Seat for Long Life
- Low Leakage
- Industry Common Cavity
- Compact Size

Pressure Drop Curves



Dimensional Data



Ordering Information

LCV - 08 - P - 10 - 6T

Type	Cavity	Poppet Type	Function	Body Porting
LCV = Direct-Acting/ Poppet Type	08		4 = 4 psi cracking	omit = Cartridge Only
LPC = Pilot to Open/ Poppet Type	10		10 = 10 psi cracking	6T = SAE6
LDPC = Dual Pilot Operated			50 = 50 psi cracking	8T = SAE8

Flow Control Valves

SAE6 & SAE8



Specifications

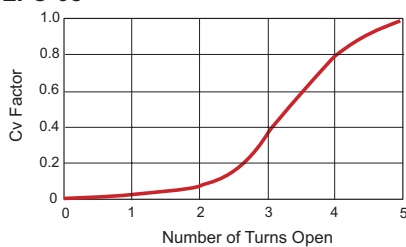
- Operating Pressure:** 3625 psi (250 Bar)
- Temperature:** -22°F - +250°F (-30°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** Critical Application: ISO 16/12 Non-Critical Application: ISO 19/15
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

Features

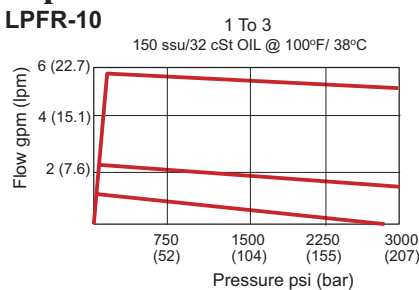
- Hardened Seat for Long Life
- Industry Common Cavity
- Compact Size

Pressure Drop Curves

LFC-08

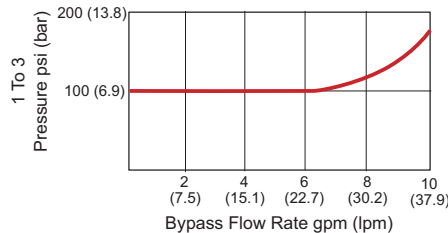


LPFR-10



$$\text{FLOW IN GPM} = \frac{C_v \sqrt{P1-P2}}{G_f}$$

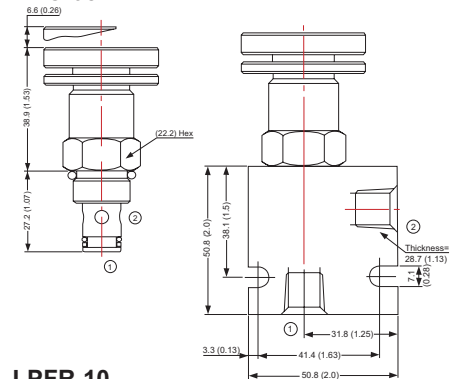
Cv=Flow Coefficient
P1=Inlet Pressure (psi)
P2=Outlet Pressure (psi)
Gf=specific gravity of medium at operating temperature in F.



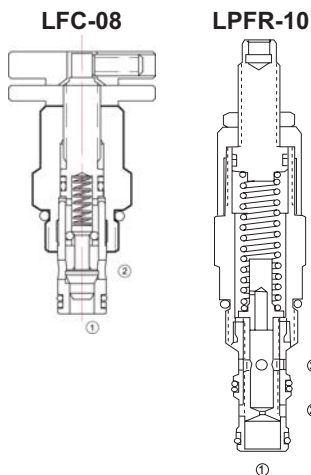
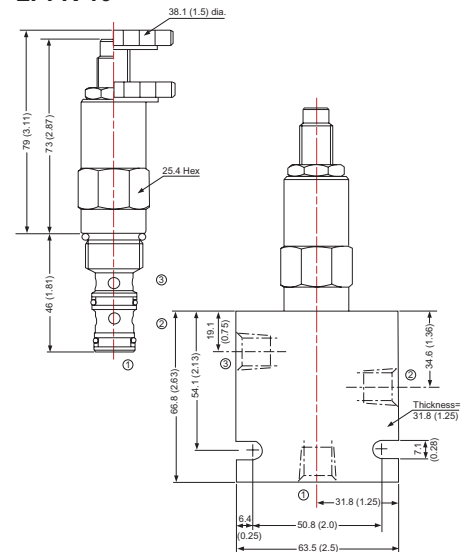
Dimensional Data

Units: mm (inch)

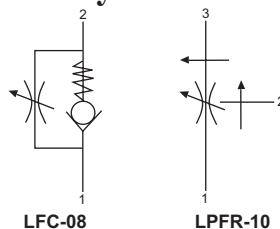
LFC-08



LPFR-10



Symbols



Ordering Information

LFC - 08 - K - 6T

Type	Cavity	1-1/2" Dia. Knob	Body Porting
LFC = Adjustable, Flow Control Valve	08		omit = Cartridge Only
LPFR = Regulator, Pressure Compensated Flow Control Valve	10		6T = SAE6
			8T = SAE8

Needle, Shut Off, Shuttle Valves

SAE6 & SAE8



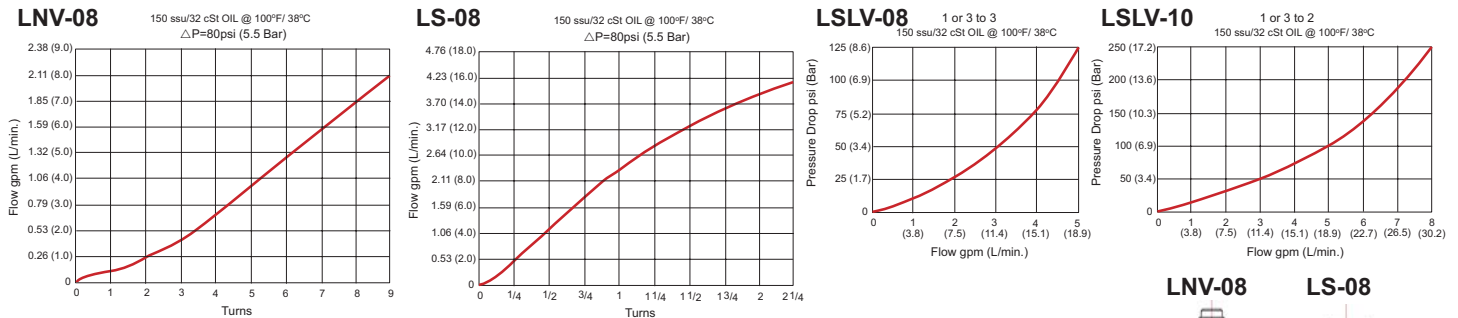
Specifications

- Operating Pressure:** 3000 psi (207 Bar)
- Temperature:** -15°F - +250°F (-26°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** Critical Application: ISO 16/12
Non-Critical Application: ISO 19/15
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

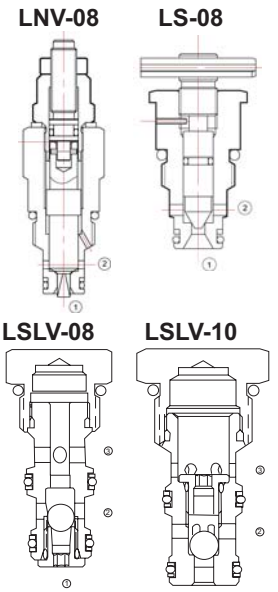
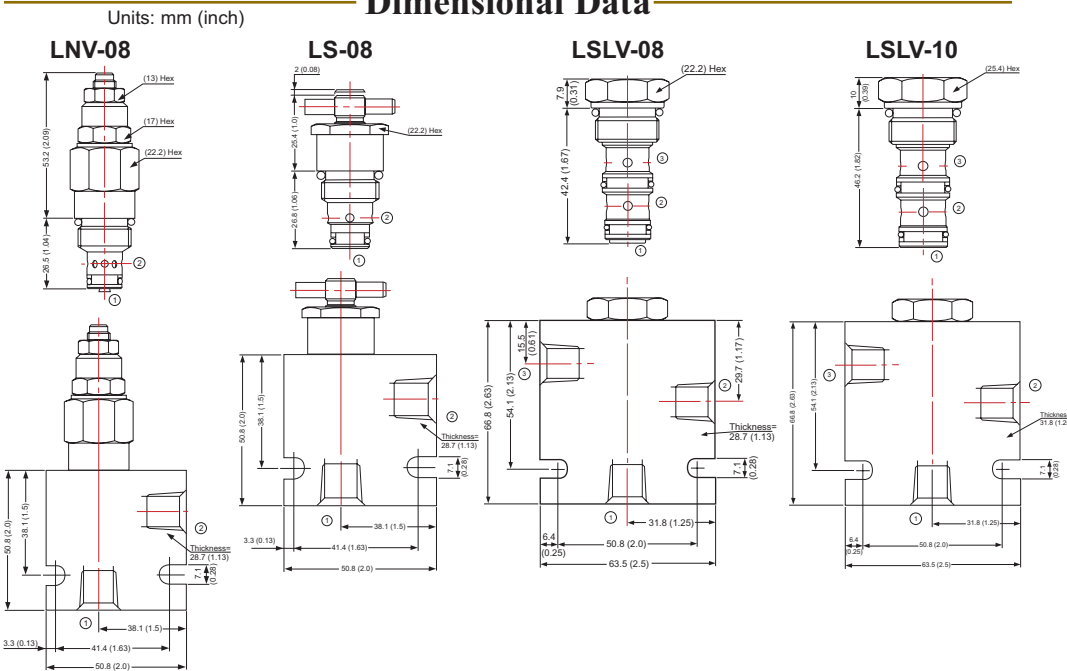
Features

- Hardened Seat for Long Life
- Low Leakage
- Industry Common Cavity
- Compact Size

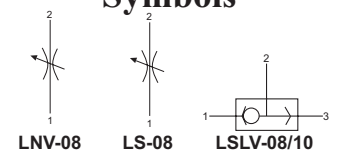
Pressure Drop Curves/ Flow Characteristics



Dimensional Data



Symbols



Ordering Information

LNV - 08 - 6T

Type	Cavity	Body Porting
LNV = Adjustable, Needle Valve	08	omit = Cartridge Only
LS = Adjustable, Shut Off Valve	10	6T = SAE6
LSLV = Ball Type, Shuttle Valve		8T = SAE8

Relief Valves

SAE6 & SAE8



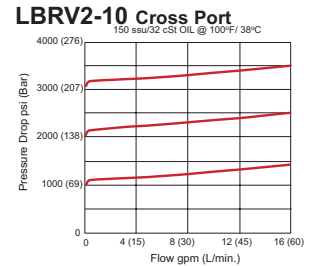
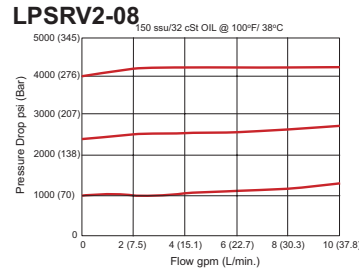
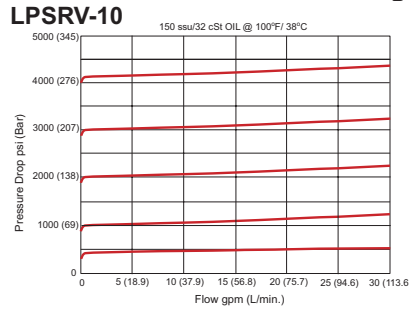
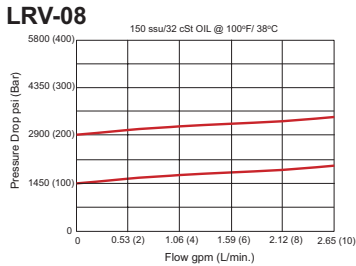
Specifications

- Operating Pressure:** 3000 psi (207 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** ISO 19/15
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

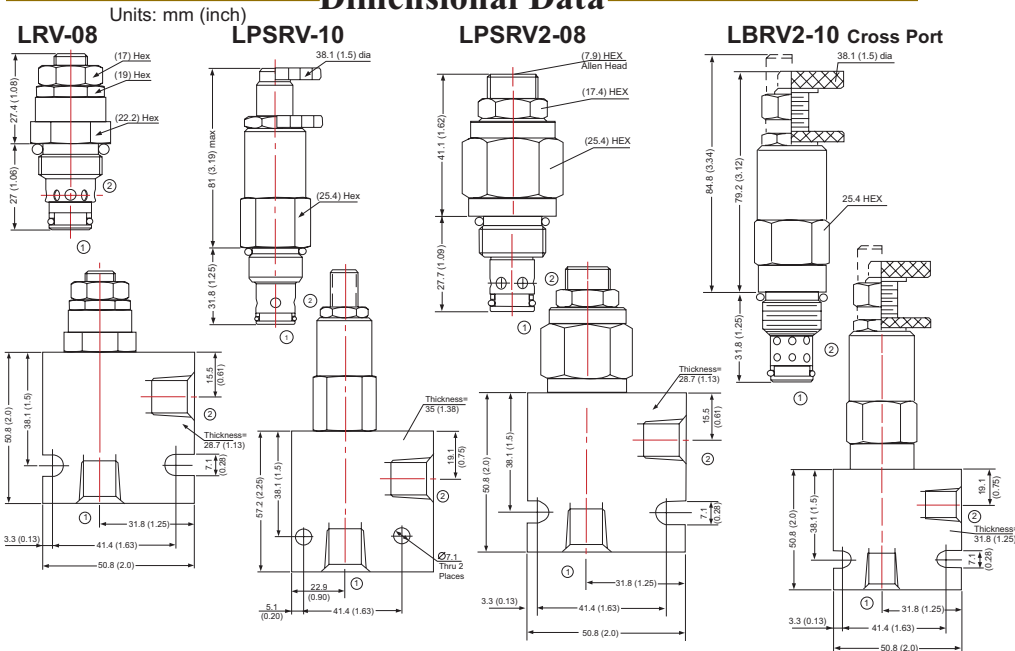
Features

- Rapid Response to Pressure Surges
- Hardened Parts for Long Life
- Adjustment May be Locked in Place
- Industry Common Cavity
- Compact Size

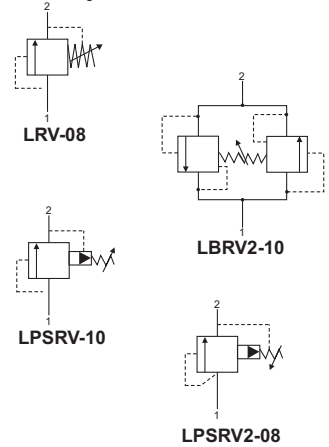
Pressure Drop Curves



Dimensional Data



Symbols



Ordering Information

LPSRV - 10 - 50 - 8T

Type	Cavity	PSI Range	Body Porting
LRV = Adjustable, Direct-Acting	08	20 = Adj. 300 - 2000	omit = Cartridge Only
LBRV2 = Adjustable, Direct Bi-Directional-Cross Port	10	24 = Adj. 200 - 2400	6T = SAE6
LPSRV2 = Adj., Pilot Op. Sliding Spool		30 = Adj. 400 - 3000	8T = SAE8
LPSRV = Adjustable, Pilot Operated		36 = Adj. 1150 - 3600	
		50 = Adj. 600 - 5000	

Pressure Reducing/ Relieving Valves

SAE8



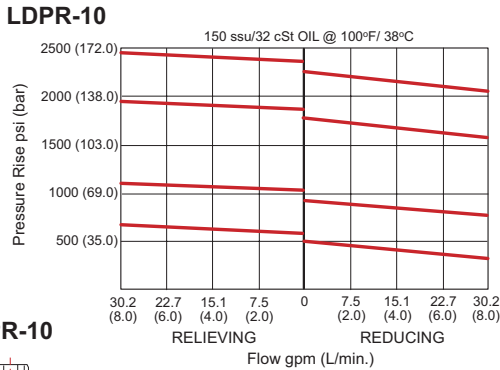
Specifications

- Operating Pressure:** 3000 psi (207 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Recommended Filtration:** Critical Application: ISO 16/12
Non-Critical Application: ISO 19/15
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

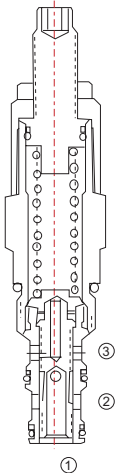
Features

- Adjustments Cannot be Backed Out of the Valve
- Adjustments Prohibit Springs from Going Solid
- Optional Spring Ranges to 2250 psi (155 Bar)
- Industry Common Cavity

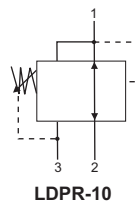
Pressure Drop Curves



LDPR-10



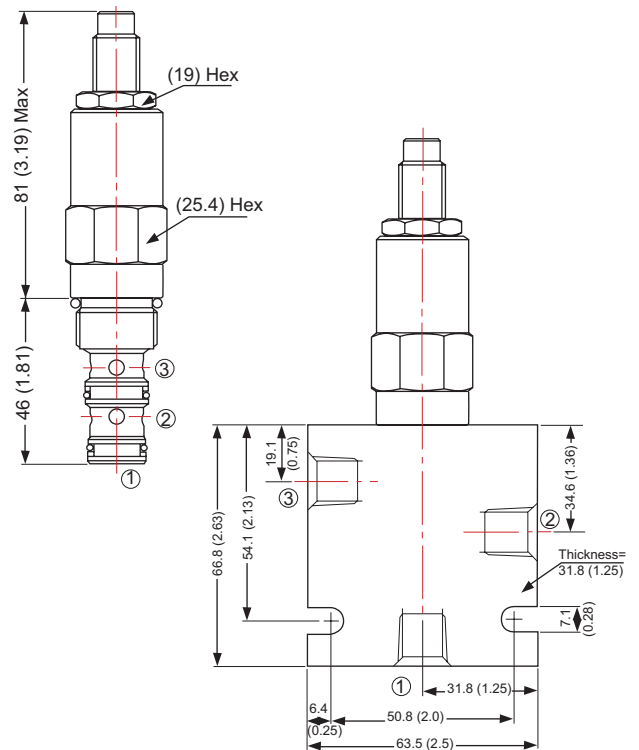
Symbols



Dimensional Data

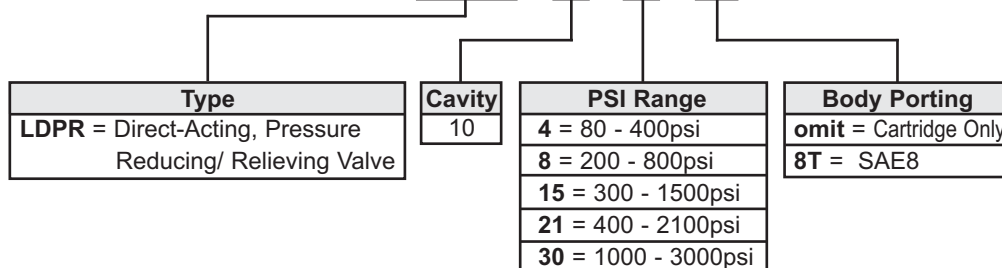
Units: mm (inch)

LDPR-10



Ordering Information

LDPR - 10 - 21 - 8T



Counterbalance Valves

SAE6 & SAE8



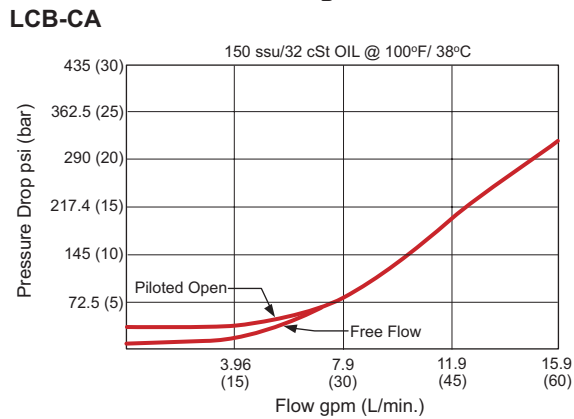
Specifications

- Load Holding Pressure:** 3100 psi (215 Bar)
- Temperature:** -30°F - +250°F (-35°C - +120°C)
- Fluids:** Mineral based fluids. For other fluid compatibility consult factory.
- Body Material:** Anodized 6061T6 aluminum alloy rated at 3000 psi (207 Bar)

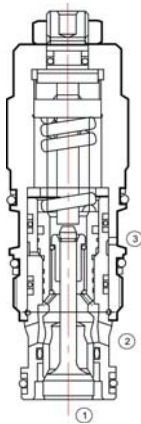
Features

- Counterbalance Valves Should be Set at Least 1.3x the Maximum Load Induced Pressure
- Turn Adjustment Clockwise to Decrease Setting and Release Load
- Backpressure at Port 2 Adds to the Effective Relief Setting at a Ratio of: 1 + the Pilot x the Backpressure

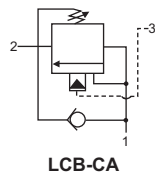
Pressure Drop Curves



LCB-CA

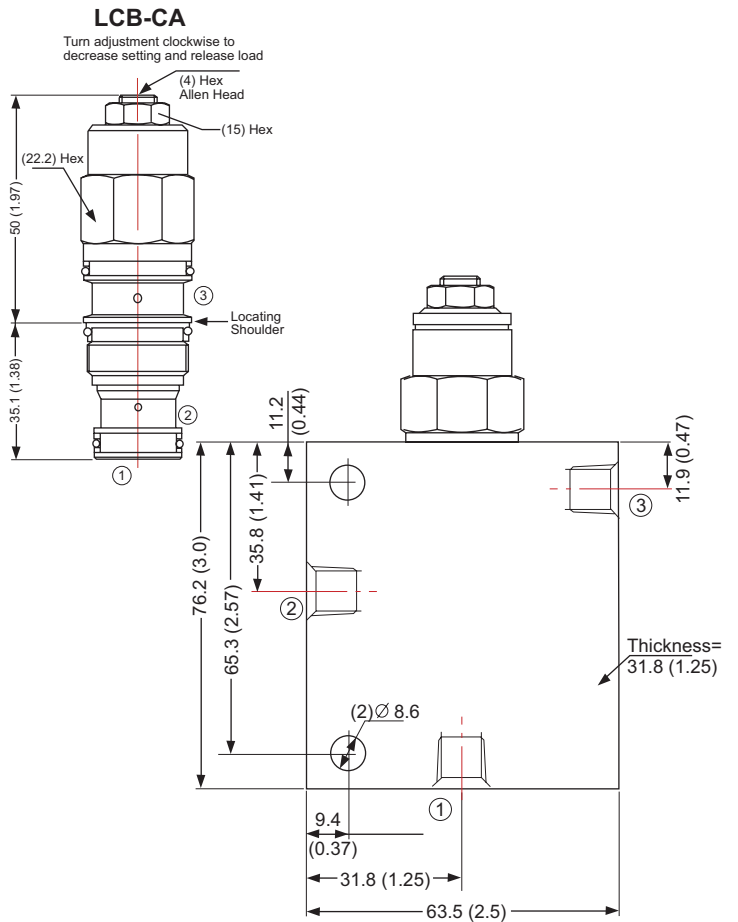


Symbols



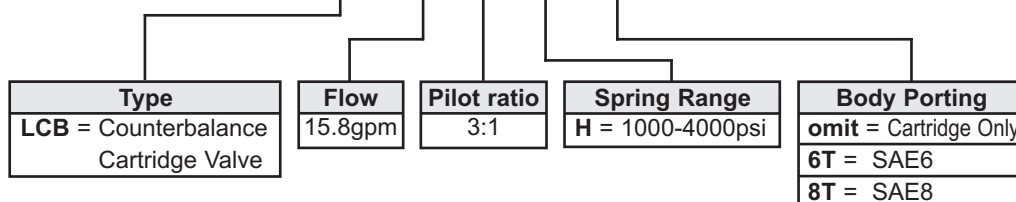
Dimensional Data

Units: mm (inch)



Ordering Information

LCB - C - A - H - 6T

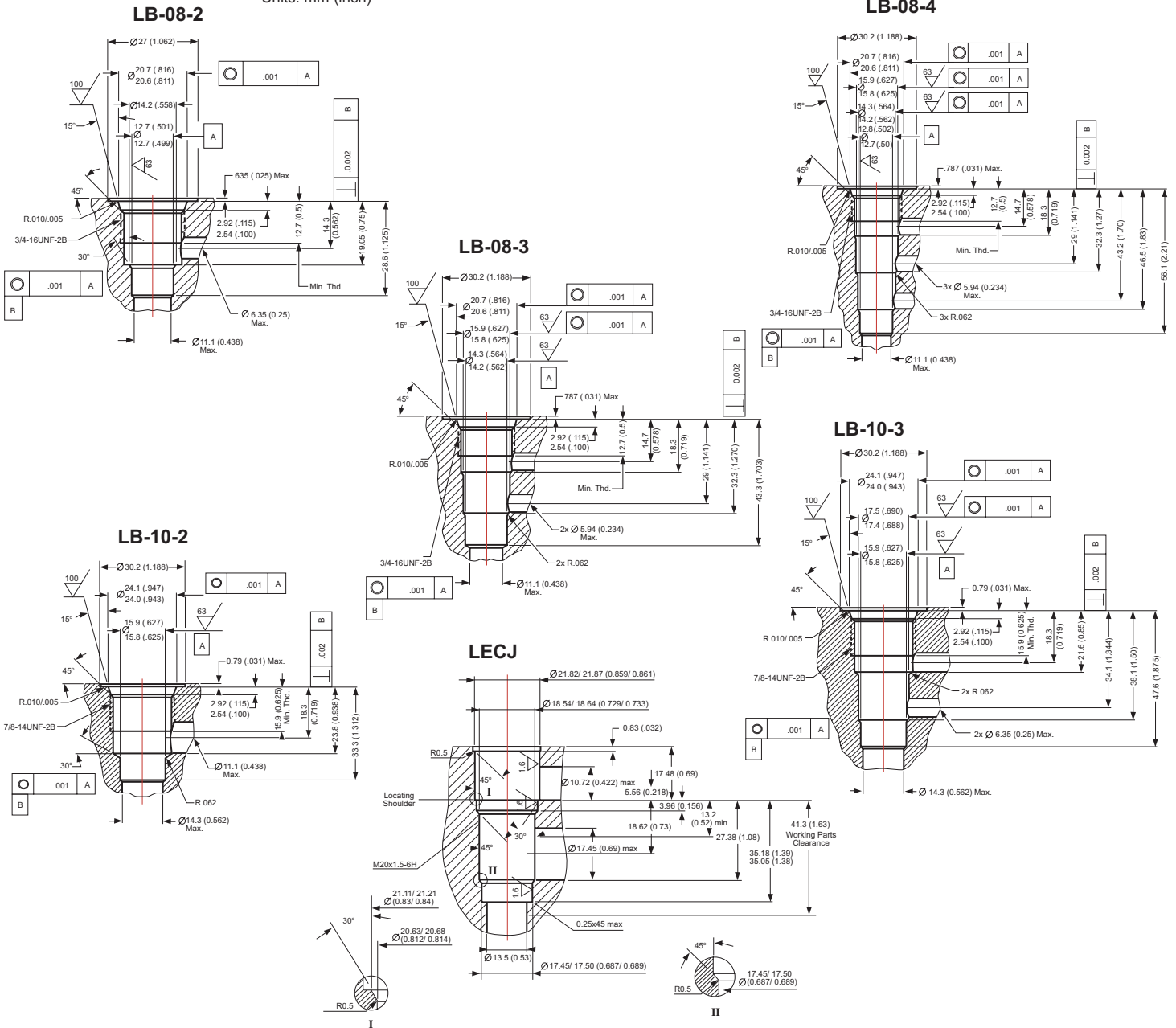


Line Bodies

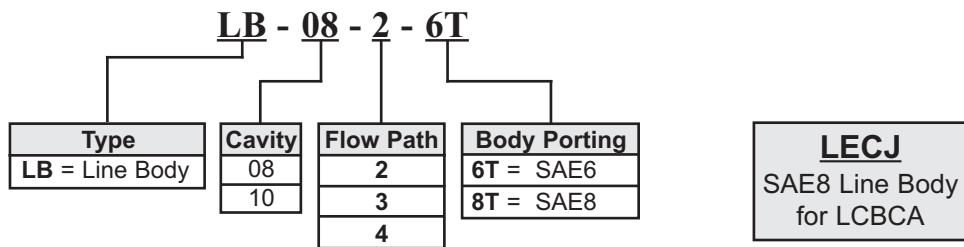
SIZE 08 & 10

Dimensional Data

Units: mm (inch)



Ordering Information



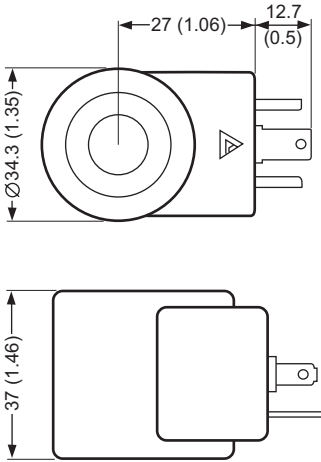
Solenoid Coils

SIZE 08 & 10

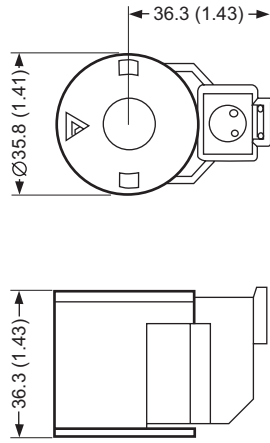
Dimensional Data

Units: mm (inch)

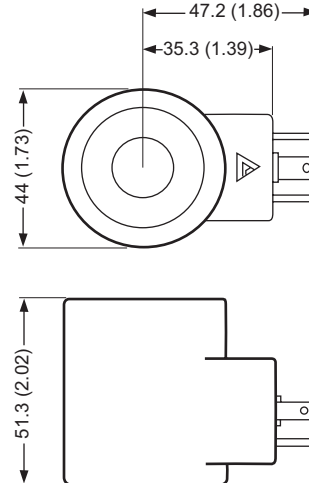
LC2-08-C-*H



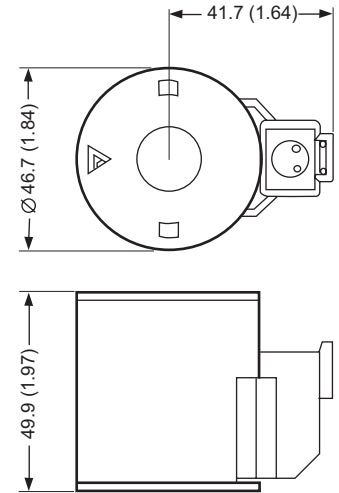
LC2-08-C-*ER



LC2-10-C-*H

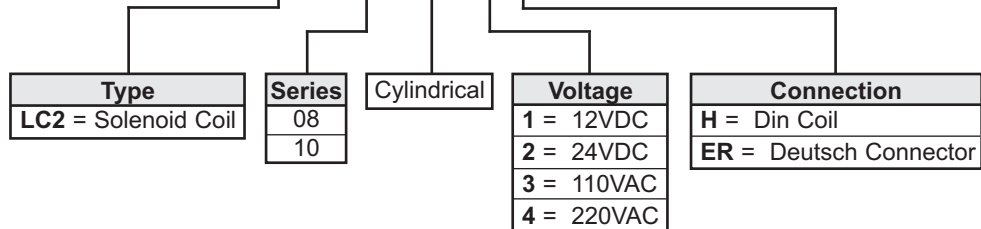


LC2-10-C-*ER



Ordering Information

LC2 - 08 - C - 2 H



LC2-08-C-3H