

LOGIC CONTROL VALVE MODEL : LCV

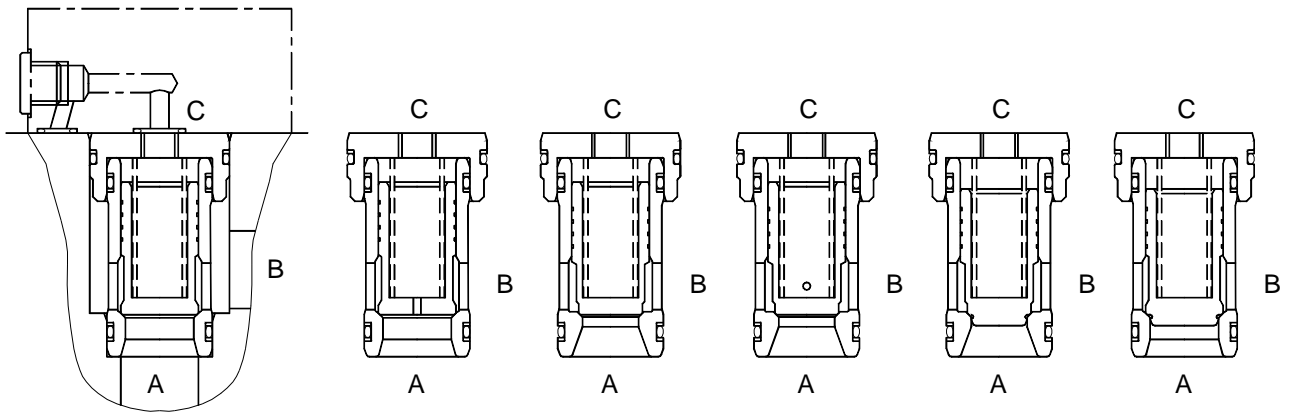
Description

Logic control valves are used to control oil pressure, flow or direction & are designed for insertion into cavities machined as per DIN 24342 ISO 7368. These cartridges are available in two area ratios, four cracking pressures & six poppet styles. The covers are available for different functions like directional control, pressure control, unloading, flow control etc.

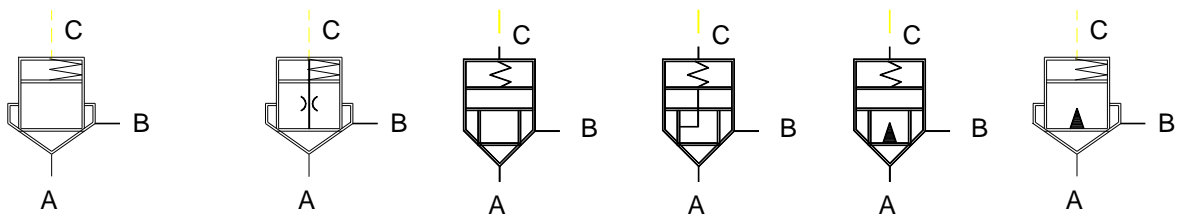


Section

AA = Area of poppet exposed to port 'A'
 CA = Area of poppet exposed to control pressure
 AA : CA = Area Ratio



Hydraulic Symbol



Standard cartridge
Area ratio 1 : 1

Relief cartridge
(with orifice)
Area ratio 1 : 1

Standard cartridge
Area ratio 1 : 1.5

Check cartridge
Area ratio 1 : 1.5

Cartridge with
cushion nose
Area ratio 1 : 1.5

Cartridge with
cushion nose
Area ratio 1 : 1

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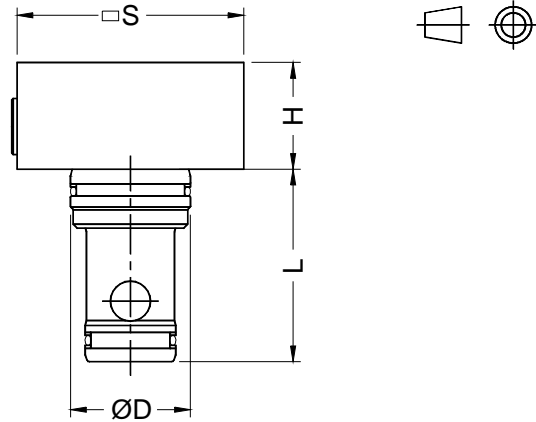
Unit Dimensions

Logic control valve and cover

Dimensions in mm.

Table No.1

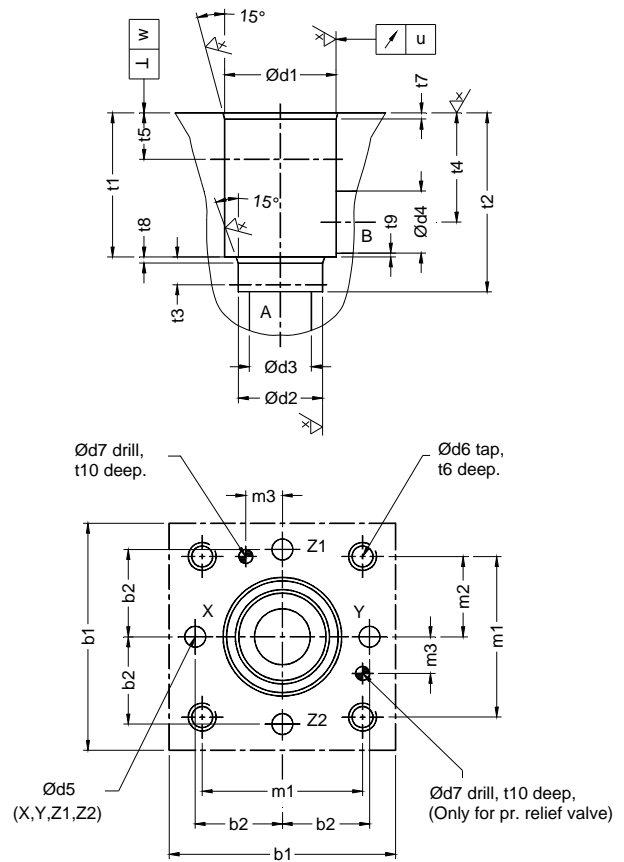
| Size | 16 | 25 | 32 | 40 |
|------|----|----|-----|-----|
| H | 35 | 40 | 50 | 60 |
| L | 56 | 72 | 85 | 105 |
| φ D | 32 | 45 | 60 | 75 |
| □ S | 65 | 85 | 102 | 125 |



Cavity machining details.

Table No.2

| Designation | Size16 | Size 25 | Size32 | Size40 |
|------------------|--------|---------|--------|--------|
| b1 | 65 | 85 | 102 | 125 |
| b2 0.2 | 25 | 33 | 41 | 50 |
| Ød1 H8 | 32 | 45 | 60 | 75 |
| Ød2 H8 | 25 | 34 | 45 | 55 |
| Ød3 | 16 | 25 | 32 | 40 |
| Ød4 min. | 16 | 25 | 32 | 40 |
| max | 25 | 32 | 40 | 50 |
| Ød5 max. | 4 | 6 | 8 | 10 |
| Ød6 | M8 | M12 | M16 | M20 |
| Ød7 H13 | 4 | 6 | 6 | 6 |
| m1 0.2 | 46 | 58 | 70 | 85 |
| m2 0.2 | 23 | 29 | 35 | 42.5 |
| m3 0.2 | 10.5 | 16 | 17 | 23 |
| t1 0.1 | 43 | 58 | 70 | 87 |
| t2 0.2 | 56 | 72 | 85 | 105 |
| t3 | 11 | 12 | 13 | 15 |
| t4 (for Ød4) min | 34 | 44 | 52 | 64 |
| max | 29.5 | 40.5 | 48 | 59 |
| t5 | 20 | 30 | 30 | 30 |
| t6 | 20 | 25 | 35 | 45 |
| t7 | 2 | 2.5 | 2.5 | 3 |
| t8 | 2 | 2.5 | 2.5 | 3 |
| t9 min | 0.5 | 1 | 1.5 | 2.5 |
| t10 | 10 | 10 | 10 | 10 |
| u | 0.03 | 0.03 | 0.03 | 0.05 |
| w | 0.05 | 0.05 | 0.1 | 0.1 |
| x Ra | 1.6 | 1.6 | 1.6 | 1.6 |



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Technical Specifications

| | |
|--|--|
| Construction | Seat type. |
| Mounting type | Insert in cavity conforming to DIN 24342, ISO 7368 |
| Mounting position | Optional |
| Flow direction | Cartridge type 1 : 1 ratio -- A to B 1 : 1.5 ratio -- A to B or B to A Check valve -- A to B Relief valve -- A to B |
| Operating pressure at A,B,X,Y,Z1& Z2 | 350 bar. |
| Area ratio | 1 : 1 ---- P type 1 : 1.5 -- K type 1 : 1 --- R type 1 : 1.5 -- C type |

Cracking pressure

| Spring type | Cracking pressure (bar) | | |
|-------------|-------------------------|---------|--------|
| | 1 : 1 | 1 : 1.5 | |
| | A to B | A to B | B to A |
| X | 0 | 0 | 0 |
| C | 0.3 | 0.45 | 0.9 |
| D | 0.6 | 0.9 | 1.8 |
| E | 1.2 | 1.8 | 3.6 |
| F | 2.3 | 3.5 | 7.1 |

| | |
|--|-------------------------------|
| Hydraulic medium | Mineral oil |
| Viscosity range | 10 cSt to 380 cSt. |
| Fluid temperature range | -20 c to + 70 c. |
| Fluid cleanliness requirement | As per ISO 16 / 13 or better. |
| Pilot volume (cms ³) | |

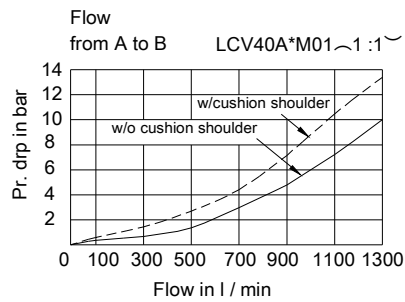
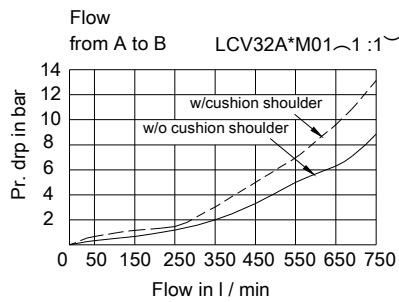
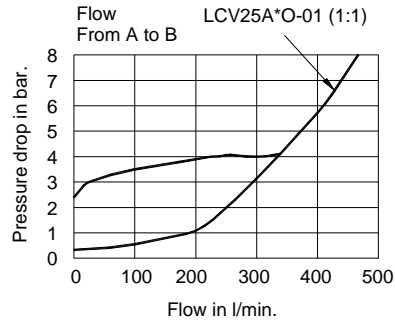
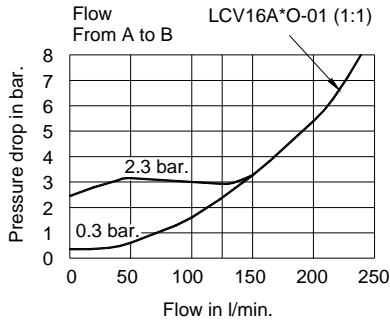
| Size | 16 | 25 | 32 | 40 |
|----------------------|-----|-----|-----|------|
| With cushion nose | 1.6 | 4.9 | 9.8 | 22.2 |
| Without cushion nose | 1.6 | 3.8 | 7.4 | 16.6 |

Maximum flow handling capacity Refer performance curve.

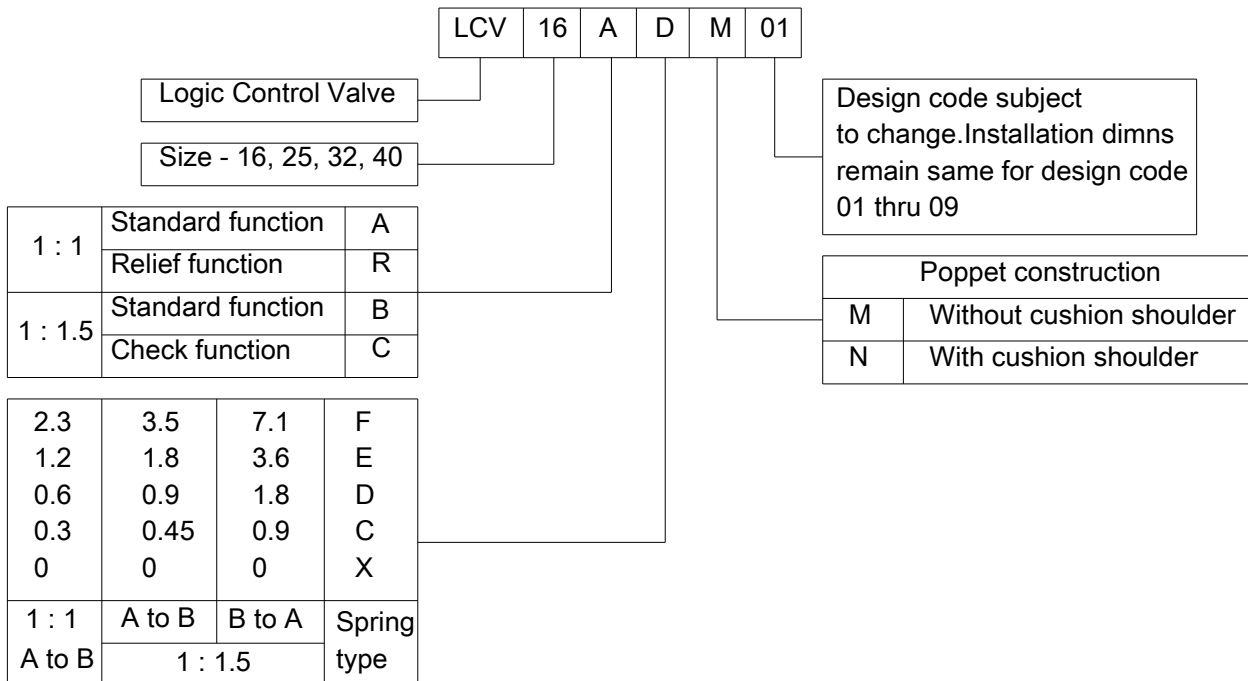
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Performance Curve

Oil used : ISO VG46, Viscosity : 46 cSt @ 40 degree celcius, Temp @ test : 50 degree celcius.

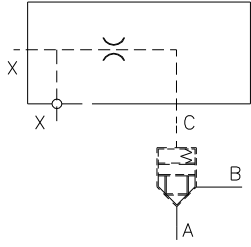
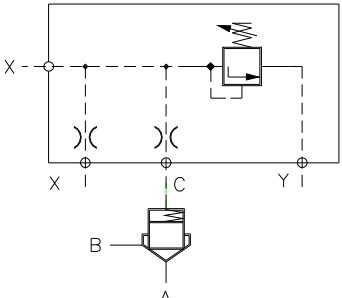
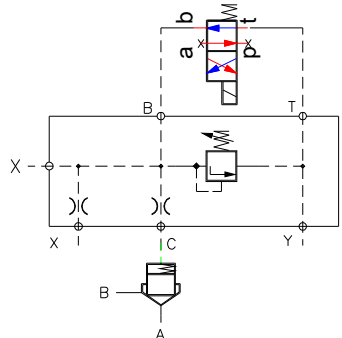
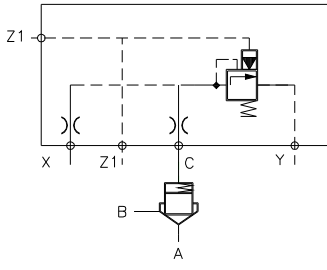
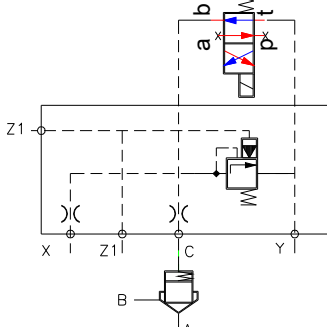


Ordering code



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| | |
|---|---|
|  | <p>Standard Cover Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*X01 Ref. sheet No. P0456</p> |
|  | <p>Relief Cover Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*R**01 Ref. sheet No. P0457</p> |
|  | <p>Relief Cover with provision for solenoid unloading Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*R***01 Ref. sheet No. P0457</p> |
|  | <p>Relief cum unloader, unloading by pilot pressure Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*U**01 Ref. sheet No. P0458</p> |
|  | <p>Relief cum unloader, unloading by pilot pressure with provision for additional solenoid unloading. Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*U***01 Ref. sheet No. P0458</p> |

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|--|--|
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'A' Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEA***01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'A' with parallel connection available at Z1 Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEAZI**01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'B' Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEB***01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'B' with parallel connection available at Z2 Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEBZ2**01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'A' and port 'B' available at Z2 Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEABZ2**01 Ref. sheet No.P0459</p> |

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| | |
|--|--|
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'A' with parallel connection available at Z1 and port B available at Z2</p> <p>Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEAZ1BZ2**01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'B' and port 'A' available at Z1</p> <p>Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEBAZ1**01 Ref. sheet No.P0459</p> |
| | <p>Cover with provision for spool type DCV solenoid operated, control port normally connected to 'B' with parallel connection available at Z2 and port A available at Z1</p> <p>Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*DEBZ2AZ1**01 Ref. sheet No.P0459</p> |
| | <p>Cover with built in change over valve</p> <p>Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*S**01 Ref. sheet No.P0460</p> |
| | <p>Cover with built in change over valve with provision for fitting directional spool valve, control port normally connected to port A</p> <p>Available in 16, 25, 32 & 40 sizes. Brief model code. LCC*SDEA*01 Ref. sheet No.P0461</p> |

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| | |
|--|---|
| | <p>Cover with built in change over valve with provision for fitting directional spool valve, control port normally connected to port B</p> <p>Available in 16, 25, 32 & 40 sizes.</p> <p>Brief model code. LCC*SDEB*01</p> <p>Ref. sheet No.P0461</p> |
| | <p>Cover with built in change over valve for fitting directional spool valve,</p> <p>Available in 16, 25, 32 & 40 sizes.</p> <p>Brief model code. LCC*SDEAA*01</p> <p>Ref. sheet No.P0462</p> |
| | <p>Cover with built in change over valve for fitting directional spool valve,</p> <p>Available in 16, 25, 32 & 40 sizes.</p> <p>Brief model code. LCC*SDEAB*01</p> <p>Ref. sheet No.P0462</p> |
| | <p>Cover with stroke limiter</p> <p>Available in 16, 25, 32 & 40 sizes.</p> <p>Brief model code. LCC*T*01</p> <p>Ref. sheet No.P0463</p> |
| | <p>High pressure cracking cover</p> <p>Available in 16, 25, sizes.</p> <p>Brief model code. LCC*AC*01</p> <p>Ref. sheet No.P0464</p> |