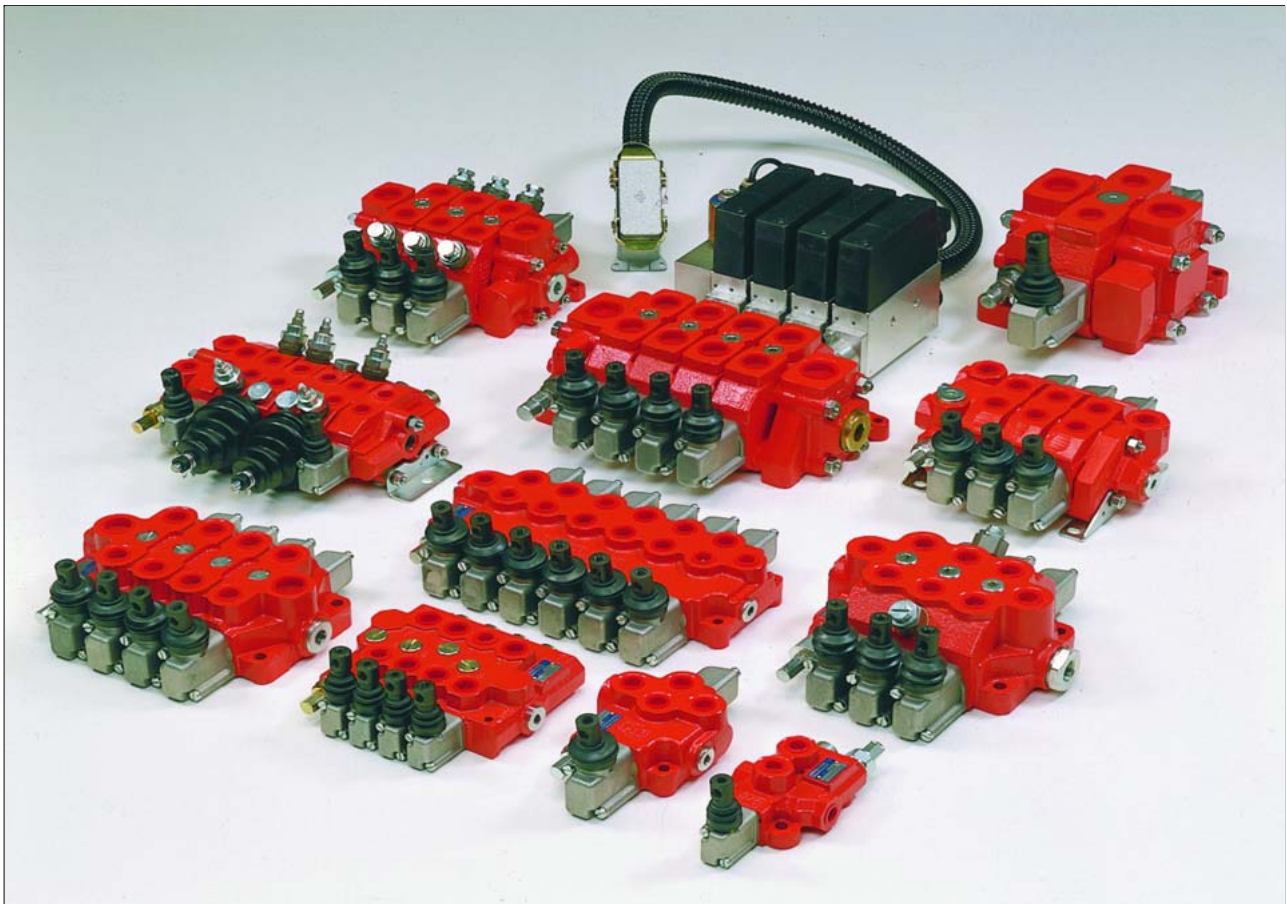


Monobloc and Sectional Directional Control Valves



motion and progress

2 Monobloc directional control valves HDM140



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2.1 General specifications

| Technical specification | | |
|---|----------------------|-------------------------|
| Max flow rate | l/min. U.S.G.P.M. | 40 10 |
| Max continuous operating pressure supply port P | bar PSI | 250 3600 |
| Max intermittent peak pressure work port A/B | bar PSI | 320 4600 |
| Max back pressure tank port T | bar PSI | 30 430 |
| Oil temperature | ° C ° F | -10 to +80 14 to 180 |
| Oil viscosity | mm ² /s | 16 to 75 |
| Oil filtration | μ | ≤ 30 |

| Spool leakage at 100 bar (1450 PSI), Temp. 50° C (120° F), viscosity 27 mm ² /s: | | |
|---|---------------------------------------|-------------|
| Maximum | cm ³ /min. Cu. In./min. | 12 0.732 |
| Average | cm ³ /min. Cu. In./min. | 6 0.366 |
| Lower values on demand (to be agreed with our Sales Dept..) | | |

| | |
|--|----|
| Number of spools | 1 |
| Adjustable direct operated relief valve (tamper-proof seal available on request) | RV |
| Single load hold check valve | LC |

2.1.1 Weight

| Version | kg | lb |
|---------|------|------|
| HDM140 | 1.75 | 3.85 |

2.1.2 Material specification:

Body: High strength cast-iron.
Spool: Hardened steel.
Seals: Buna "N".

2.1.3 Standard features:

- 1) Balanced interchangeable spools (provides minimum leakage, smooth operation)
- 2) Wide selection inlets, work ports, and outlets threaded ports.
- 3) Negative overlapping of the spool.

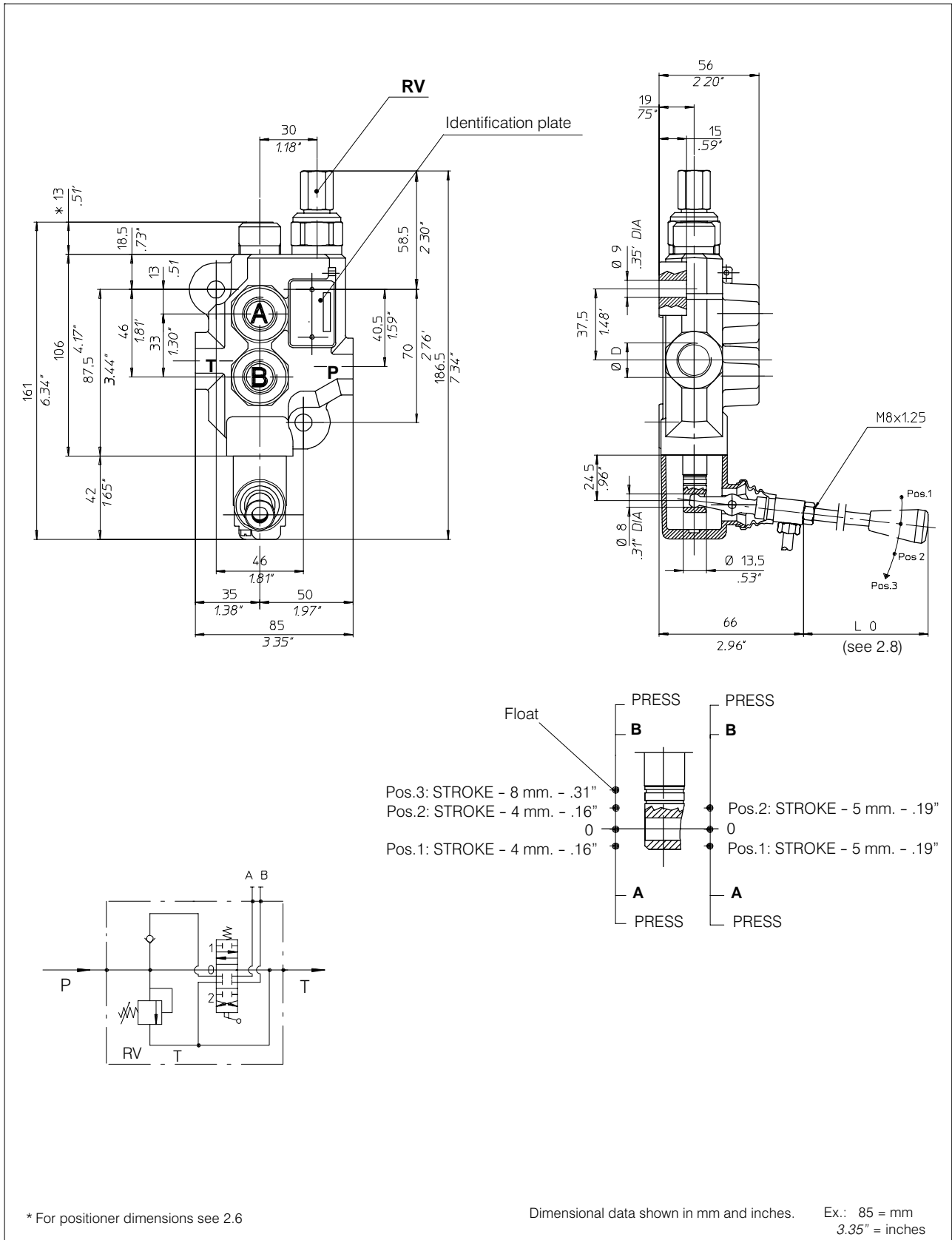
2.1.4 Optional features available:

- 1) Open or closed centre positions, 3 or 4 way operations, 3 or 4 position (float position), full open centre (motor spool) and other spool options.
- 2) Complete lever assembly.
- 3) Wide range spool positioners.

2.1.5 Symbols:

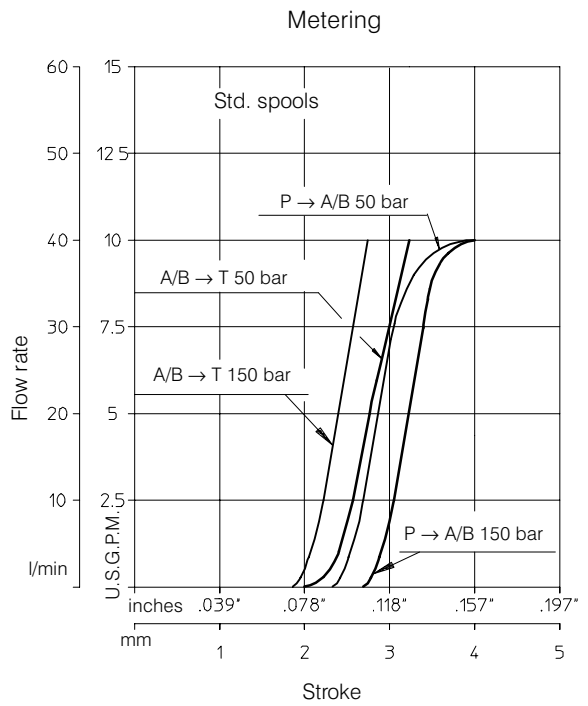
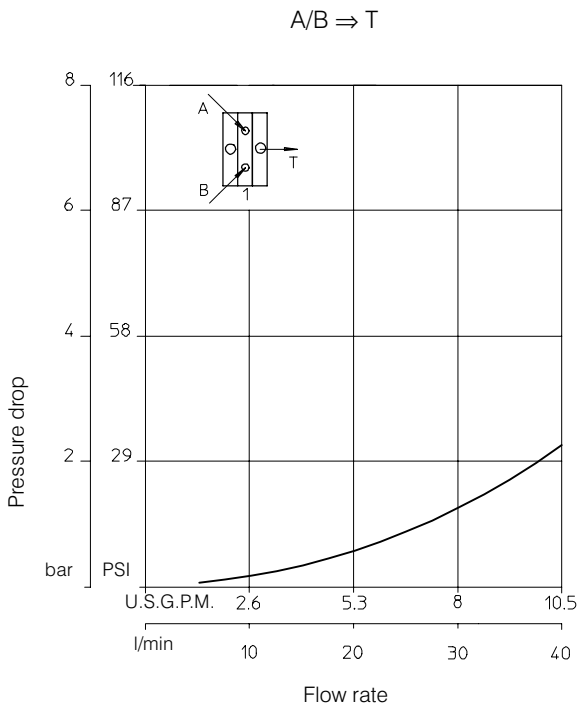
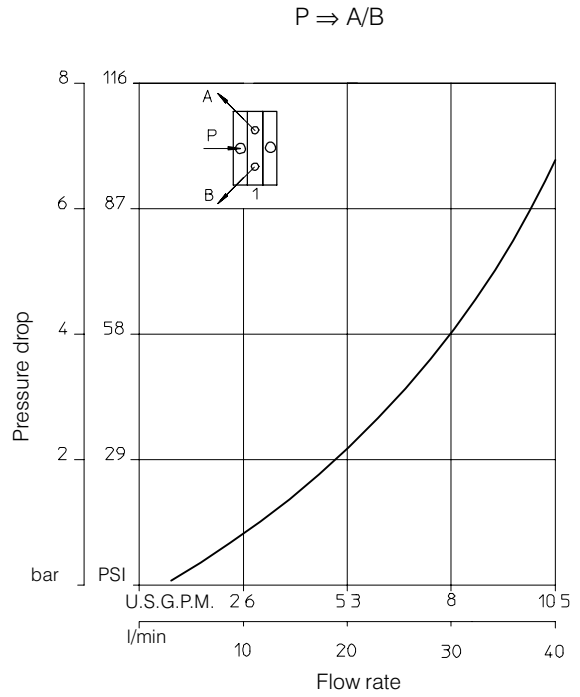
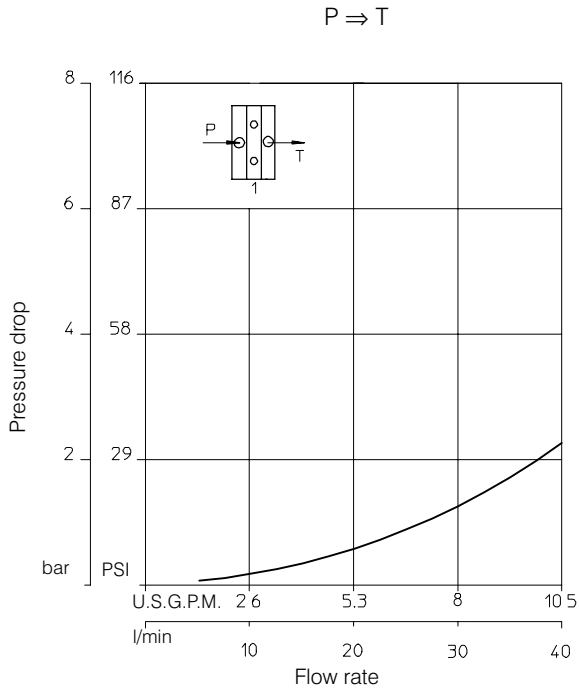
P: inlet port
T: outlet port
A/B: work ports
RV: relief valve
3.1.0.2: spool position
P: pressure line
T: exhaust line
E: center line (by pass).

2.2 Dimensional data

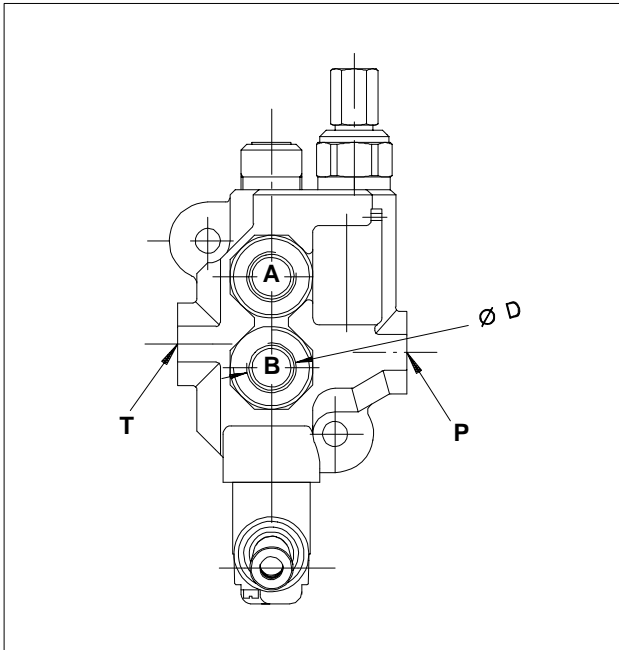


2.3 Performance curves

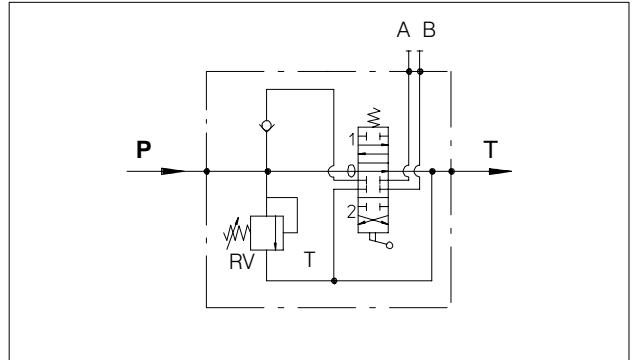
Oil: Shell Tellus T37
 Temperature: 50° C (120° F)
 Viscosity: 27 mm²/s



2.4 Monobloc bodies



| Ø D | Type | Code |
|----------|------------|-----------------|
| M18X1.5 | K01 | 200.9421.1001.0 |
| 3/8" BSP | K02 | 200.9421.2001.0 |
| SAE8 | K05 | 200.9421.7001.0 |



Note: Body codes consist of: machined casting, seals, plugs and check valve only. Not to be used for complete valve order.

2.5 Adjustable direct acting Relief Valve RV

Peak: 25 bar (362 PSI)
 Fluctuating pressure: 15 bar (125 PSI)
 Operating Time: 0.015 s
 160 bar (2320 PSI)

Relief valve set at 30 l/min (8 U.S.G.P.M.)

| Pressure set range bar (PSI) | Std. setting bar (PSI) | Type | Spring colour |
|------------------------------|------------------------|-----------|---------------|
| 30 - 95 (400 - 1300) | 60 (860) | 06 | Yellow (YE) |
| 96 - 210 (1300 - 3000) | 150 (2100) | 15 | Green (GR) |
| 211 - 320 (3000 - 4600) | 260 (3700) | 26 | Blue (BL) |

Pressure setting (bar/PSI) vs Flow rate (l/min/U.S.G.P.M.)

2.6 Spool positioners

| F (N)** | Type | Code* |
|---------|-----------------------|-----------------|
| 200 | 01 standard | 200.7685.1001.0 |
| 140 | 79 | 200.7685.1092.0 |

3 position spring return to neutral

| Type | Code* |
|-----------|-----------------|
| 02 | 200.7685.3001.0 |

2 position detent - spring centre

| Type | Code* |
|-----------|-----------------|
| 03 | 200.7685.2001.0 |

3 position detent

| Type | Code |
|-----------|-----------------|
| 04 | 200.7685.4003.0 |

4 position float
Plastic plug code: 200.6780.0009.0

| Type | Code* |
|-----------|-----------------|
| 05 | 200.7685.2005.0 |

2 position detent

| Type | Code* |
|-----------|-----------------|
| 06 | 200.7685.1005.0 |

2 position spring return

| Type | Code* |
|-----------|-----------------|
| 07 | 200.7685.2027.0 |

2 position detent

| Type | Code* |
|-----------|-----------------|
| 12 | 200.7685.1021.0 |

2 position spring return

* : code without plastic plug; plastic plug code: 200.6780.0008.0

F (N)**: Force in Newton (N) needed to operate the spool.

| | |
|-------------------|--------------------------|
| Type 15 | Code* 200.7685.1109.0 |
|-------------------|--------------------------|

2 position spring return

| | |
|-------------------|--------------------------|
| Type 16 | Code* 200.7685.1110.0 |
|-------------------|--------------------------|

2 position spring return

| | |
|-------------------|--------------------------|
| Type 17 | Code* 200.7685.1040.0 |
|-------------------|--------------------------|

2 position spring return

| | |
|-------------------|--------------------------|
| Type 20 | Code* 200.7685.3010.0 |
|-------------------|--------------------------|

2 position detent + spring return

| | |
|-------------------|--------------------------|
| Type 38 | Code* 200.7685.2029.0 |
|-------------------|--------------------------|

4 position detent

| | |
|-------------------|-------------------------|
| Type 84 | Code 200.9686.1097.0 |
|-------------------|-------------------------|

3 position spring return

| | |
|-------------------|-------------------------|
| Type 88 | Code 200.9686.1010.0 |
|-------------------|-------------------------|

3 position spring return to neutral

| | |
|--------------------|--------------------------|
| Type 106 | Code* 200.7685.2028.0 |
|--------------------|--------------------------|

2 position detent - spring return to pos.1

* : code without plastic plug; plastic plug code: 200.6780.0008.0

2.6.1 Microswitch control

| | | | | |
|-------------------|-------------------------|---|--|--|
| Type 30 | Code 200.9686.1050.0 | Microswitch is operated when the spool is in pos. 1 | | |
| Type 32 | Code 200.9686.1060.0 | Microswitch is operated when the spool is in pos. 2 | | |
| Type 34 | Code 200.9686.1064.0 | Microswitch is operated when the spool is in pos. 1 and 2 | | |

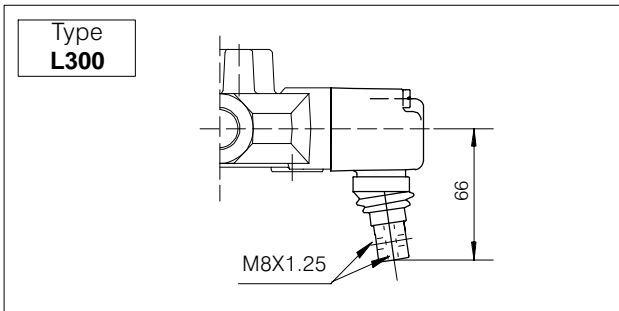
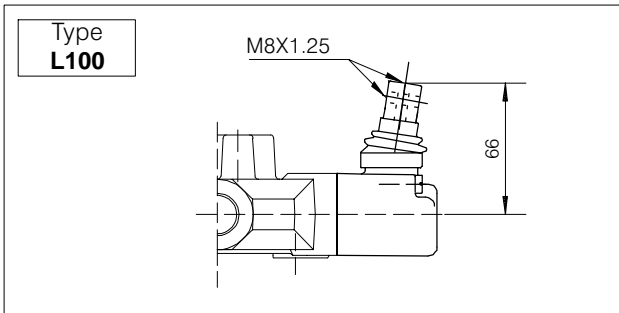
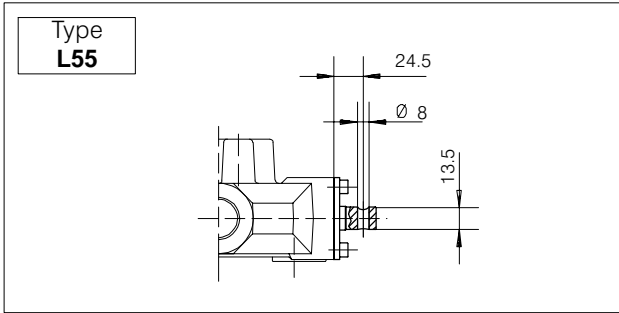
* The microswitch is supplied only on customer's request.

2.7 Spool charts

| Spool scheme | Spool features | Type |
|--------------|--|------------|
| | 4 way - 3 position A/B closed E open by pass | A |
| | 4 way - 3 position A/B-E closed | B |
| | 4 way - 3 position A/B to tank in neutral E open by pass | C |
| | 3 way - 3 position B closed E open by pass | G |
| | 4 way - 3 position with regenerative spool in 1 st position | R** |
| | 3 way - 3 position A closed E open by pass | S |
| | 4 way - 4 position 4 th floating position | Z |

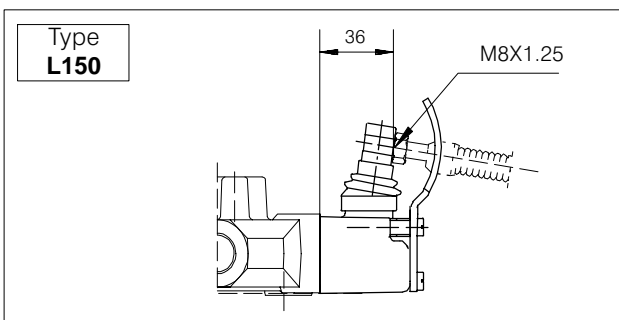
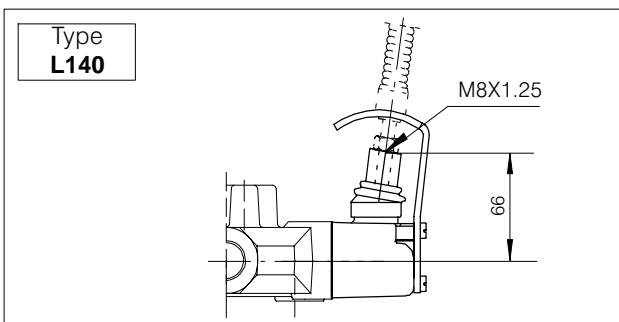
** : special body required

2.8 Lever styles



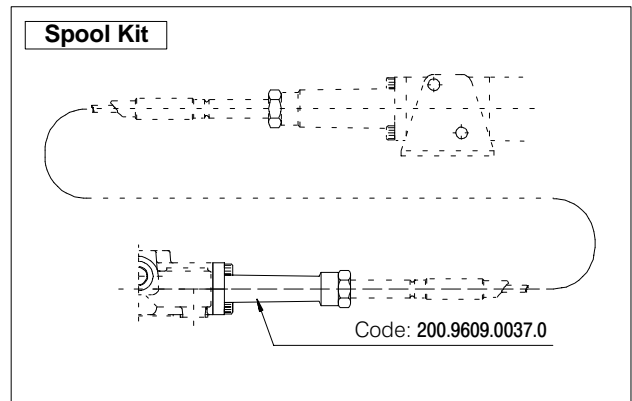
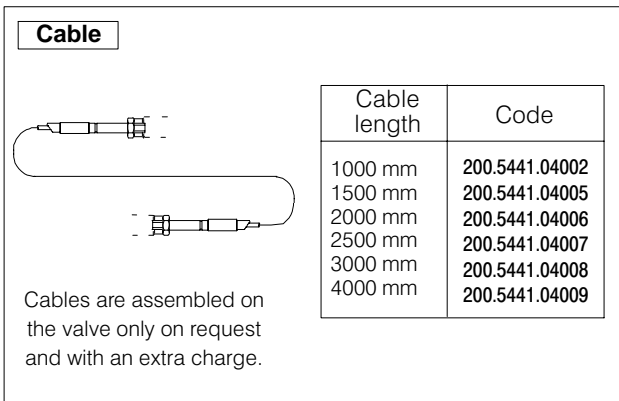
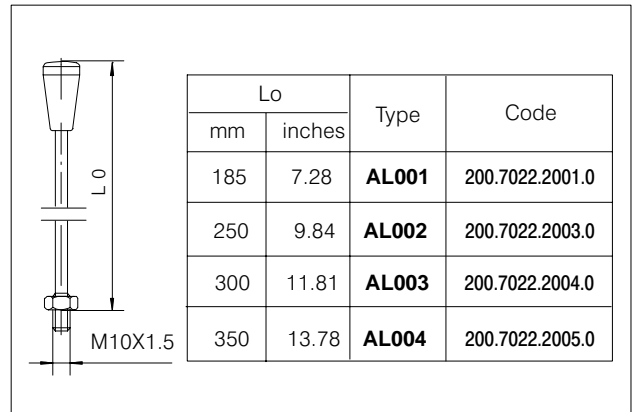
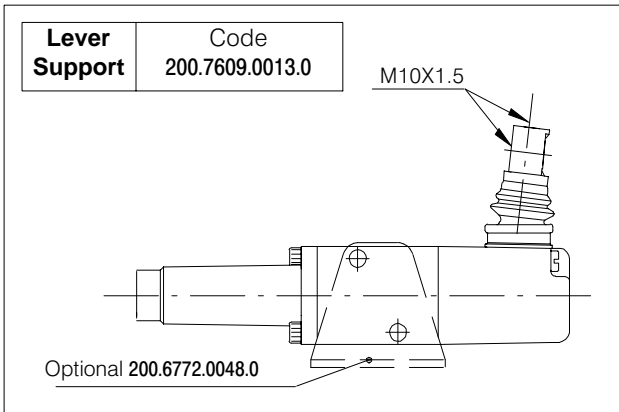
| Lo | | Type | Code |
|-----|--------|--------------------------|-----------------|
| mm | inches | | |
| 150 | 5.90 | AL001 standard | 200.7022.1019.0 |
| 200 | 7.87 | AL002 | 200.7022.1003.0 |
| 250 | 9.84 | AL003 | 200.7022.1005.0 |
| 300 | 11.81 | AL004 | 200.7022.1006.0 |

2.8.1 Safety levers

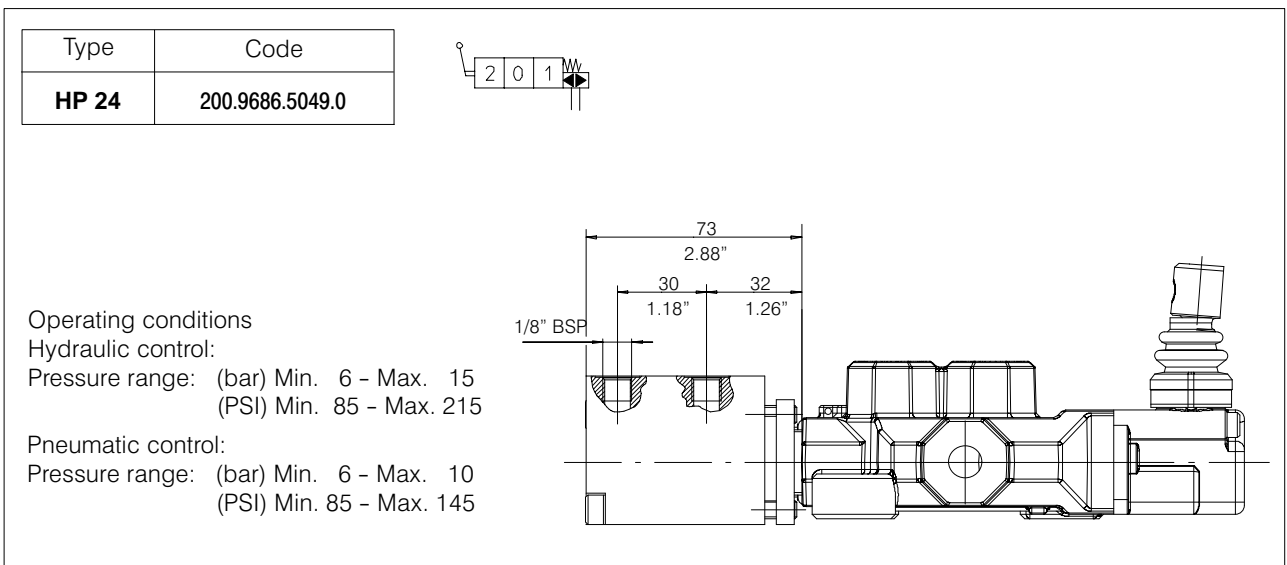


| Lo | | Type | Code |
|-----|--------|--------------|-----------------|
| mm | inches | | |
| 160 | 6.30 | AL014 | 200.7022.1009.0 |
| 180 | 7.08 | AL018 | 200.7022.1011.0 |

2.8.2 Remote cable control



2.9 Hydraulic-Pneumatic control ON-OFF



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