

# Ningbo Hyforce Hydraulic Machinery Co., Ltd

## Screw-in Cartridge Valves



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## Solenoid Operated On/Off Valve Series

Content of Solenoid Operated On/Off Valve Series	Page No.
<b>2-Way 2-Position</b>	
SV08-20 Series (Poppet Type, Normally Closed)	H1-H2
SV08-21 Series (Poppet Type, Normally Open)	H3-H4
SV08-22 Series (Poppet Type, Normally Closed) Reverse Flow Energized	H5-H6
SV08-23 Series (Poppet Type, Normally Open) Reverse Flow De-energized	H7-H8
SV08-24 Series (Spool Type, Normally Closed)	H9-H10
SV08-25 Series (Spool Type, Normally Open)	H11-H12
SV08-27 Series (Poppet Type, Normally Open) Bi-directional Blocking Energized	H13-H14
SV08-28 Series (Poppet Type, Normally Closed) Bi-directional Blocking De-energized	H15-H16
SV10-20 Series (Poppet Type, Normally Closed)	H17-H18
SV10-21 Series (Poppet Type, Normally Open)	H19-H20
SV10-22 Series (Poppet Type, Normally Closed) Reverse Flow Energized	H21-H22
SV10-23 Series (Poppet Type, Normally Open) Reverse Flow De-energized	H23-H24
SV10-24 Series (Spool Type, Normally Closed)	H25-H26
SV10-25 Series (Spool Type, Normally Open)	H27-H28
SV10-28 Series (Poppet Type, Normally Closed) Bi-directional Blocking De-energized	H29-H30
SV12-20 Series (Poppet Type, Normally Closed)	H31-H32
SV12-21 Series (Poppet Type, Normally Open)	H33-H34
SV12-22 Series (Poppet Type, Normally Closed) Reverse Flow Energized	H35-H36
SV12-23 Series (Poppet Type, Normally Open) Reverse Flow De-energized	H37-H38
<b>3-Way 2-Position</b>	
SV08-30 Series (Spool Type)	H39-H40
SV08-31 Series (Spool Type)	H41-H42
SV08-32 Series (Spool Type)	H43-H44
SV10-30 Series (Spool Type)	H45-H46
SV10-31 Series (Spool Type)	H47-H48
SV10-32 Series (Spool Type)	H49-H50
<b>4-Way 2-Position</b>	
SV08-40 Series (Spool Type)	H51-H52
SV08-41 Series (Spool Type)	H53-H54
SV10-40 Series (Spool Type)	H55-H56
SV10-41 Series (Spool Type)	H57-H58



## Directional Control Valve Series

Content of Directional Control Valve Series	Page No.
CV08-P Series Check Valve (Poppet Type)	I1-I2
CV08-B Series Check Valve (Ball Type)	I3-I4
CVR08-P Series Check Valve (Poppet Type)	I5-I6
CV10-P Series Check Valve (Poppet Type)	I7-I8
CVR10-P Series Check Valve (Poppet Type)	I9-I10
CV12-P Series Check Valve (Poppet Type)	I11-I12
PCV04M-P Series Pilot Operated Check Valve (Poppet Type)	I13-I14
PCV08-B Series Pilot Operated Check Valve (Ball Type)	I15-I16
PCV10M-P Series Pilot Operated Check Valve (Poppet Type)	I17-I18
SLV06M-B Series Shuttle Valve (Ball Type)	I19-I20
SLV08-B Series Shuttle Valve (Ball Type)	I21-I22
MV08-27 Series Manual Operated Directional Control Valve	I23-I24
MV08-27-E Series Manual Operated Directional Control Valve	I25-I26
MEV08-27 Series Mechanical Operated Directional Control Valve	I27-I28

## Pressure Control Valve Series

Content of Pressure Control Valve Series	Page No.
DRV08-11 Series Direct Operated Relief Valve	J1-J2
DRV08-18 Series Direct Operated Relief Valve	J3-J4
DRV08-20 Series Direct Operated Relief Valve	J5-J6
DRV08-35 Series Direct Operated Relief Valve	J7-J8
DRV08M-50 Series Direct Operated Relief Valve	J9-J10
DRV10-50 Series Direct Operated Relief Valve	J11-J12
DRV10M-90 Series Direct Operated Relief Valve	J13-J14
DRVR10-90 Series Direct Operated Relief Valve	J15-J16
PRV12M-113 Series Pilot Operated Relief Valve	J17-J18
PRV16M-300 Series Pilot Operated Relief Valve	J19-J20

## Flow Control Valve Series

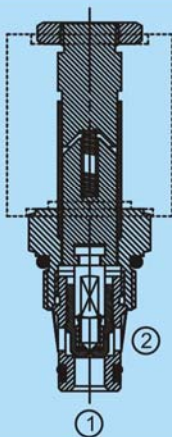
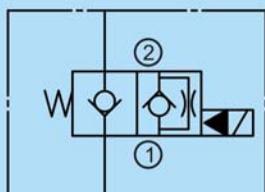
Content of Flow Control Valve Series	Page No.
NV08 Series Needle Valve	K1-K2
NV10 Series Needle Valve	K3-K4
FC08 Series Flow Control Valve with Reverse Flow Check	K5-K6
FC10 Series Flow Control Valve with Reverse Flow Check	K7-K8
FR06G Series Flow Regulator with Pressure Compensated	K9-K10
FR08 Series Flow Regulator with Pressure Compensated	K11-K12
FR10 Series Flow Regulator with Pressure Compensated	K13-K14



## Solenoid Operated On/Off Valve Series

### SV08-20 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

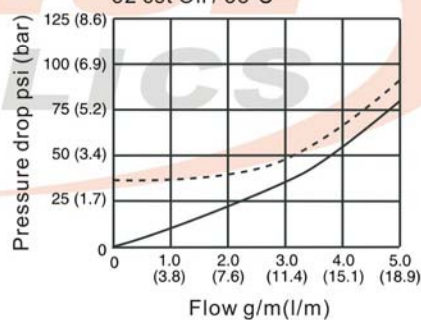


#### Technical data

Model		SV08-20
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	99
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
① To ② --- De-energized  
32 cst Oil / 38°C



#### How to order

SV	08	20	M	G24	Z5L
Product type	Cavity	Symbol code	Manual override	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Standard M: Manual override	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

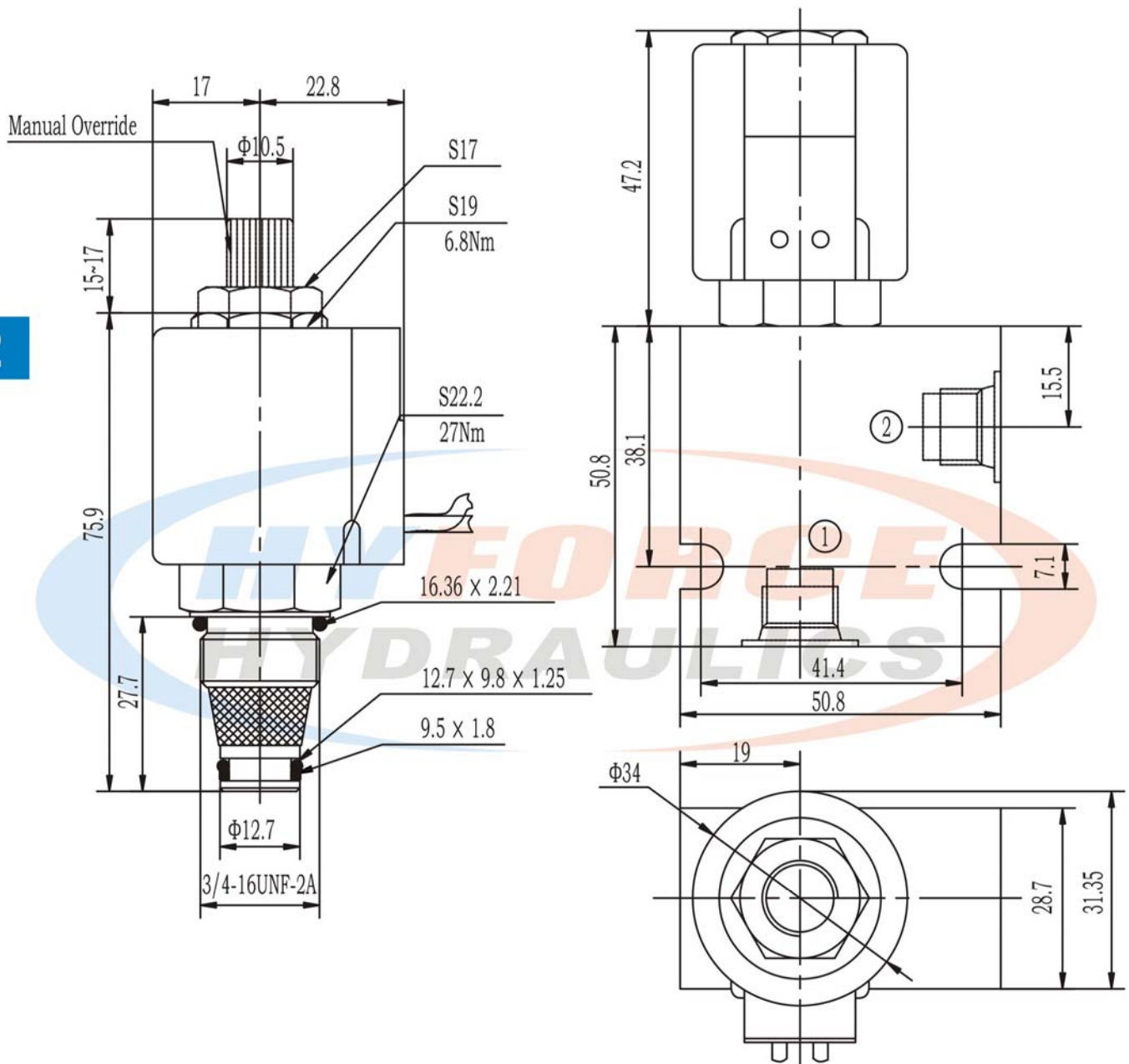
Remark: If need standard block, please refer to its catalogue in page L1

## Solenoid Operated On/Off Valve Series

### SV08-20 series valve dimensions

Unit: mm

H2

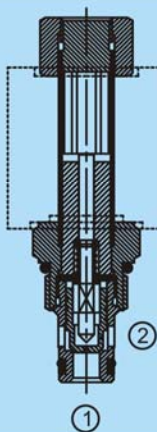
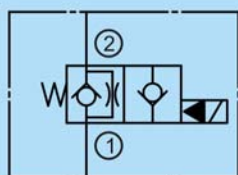




## Solenoid Operated On/Off Valve Series

### SV08-21 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

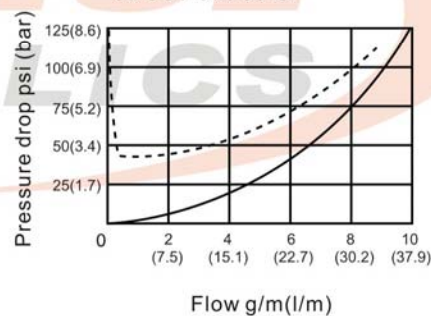


#### Technical data

Model		SV08-21
Max. flow rate (l/min)		38
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	114
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
① To ② --- Energized  
32 CST Oil / 38°C



#### How to order

SV	08	21	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L1

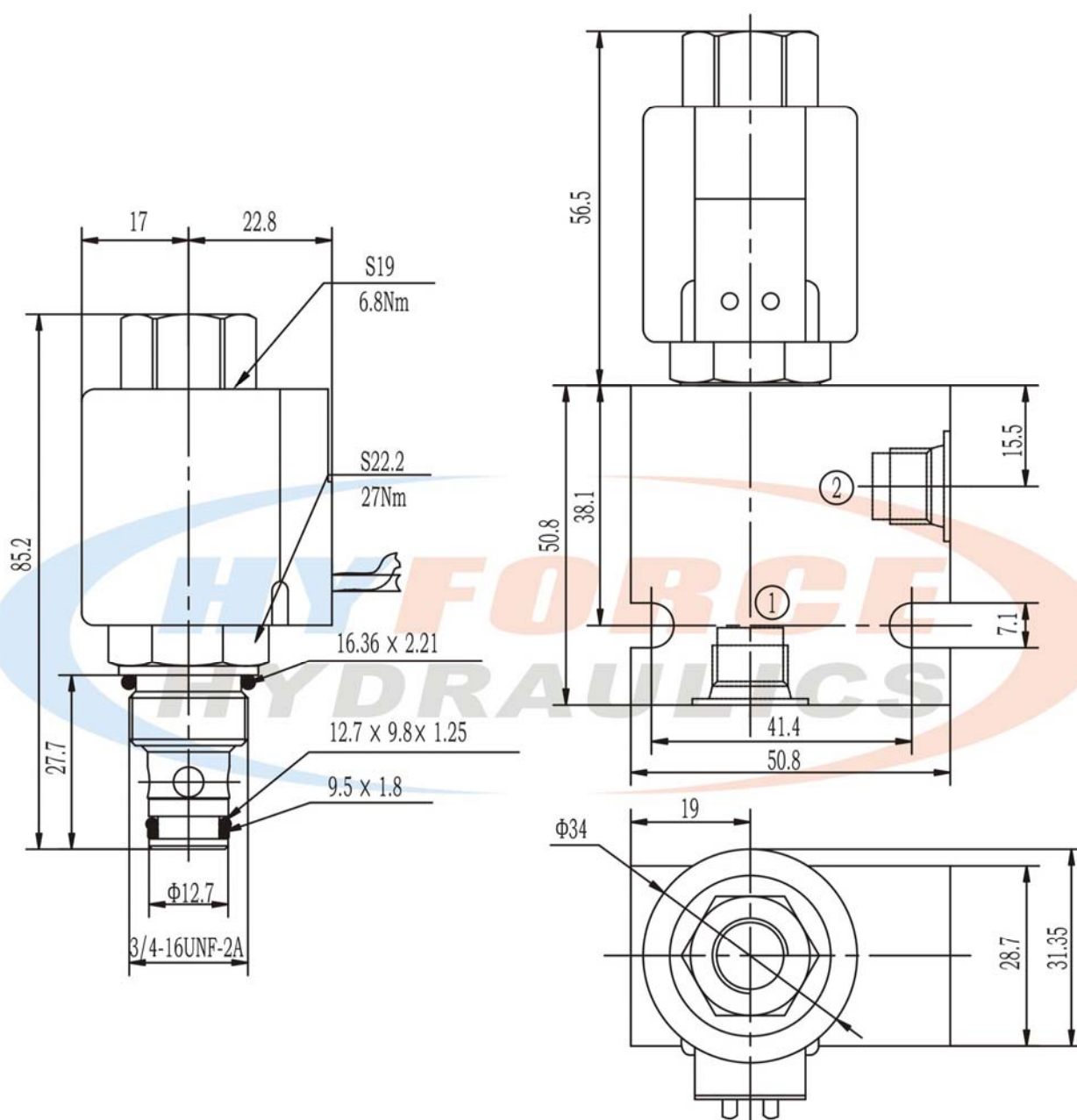


## Solenoid Operated On/Off Valve Series

### SV08-21 series valve dimensions

Unit: mm

H4



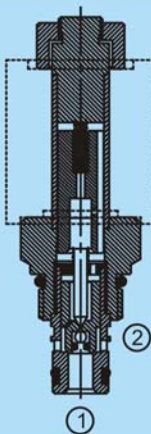
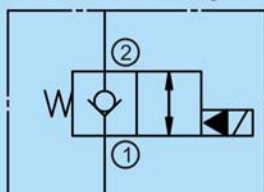


## Solenoid Operated On/Off Valve Series

### SV08-22 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

Reverse Flow Energized

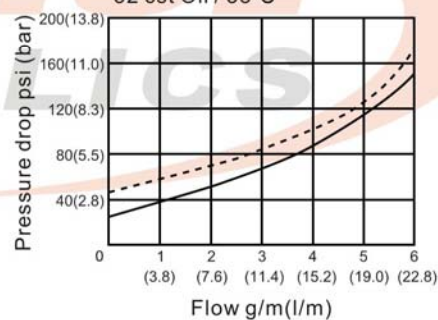


#### Technical data

Model		SV08-22
Max. flow rate (l/min)		23
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	117
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
① To ② --- De-energized  
32 cst Oil / 38°C



#### How to order

SV	08	22	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

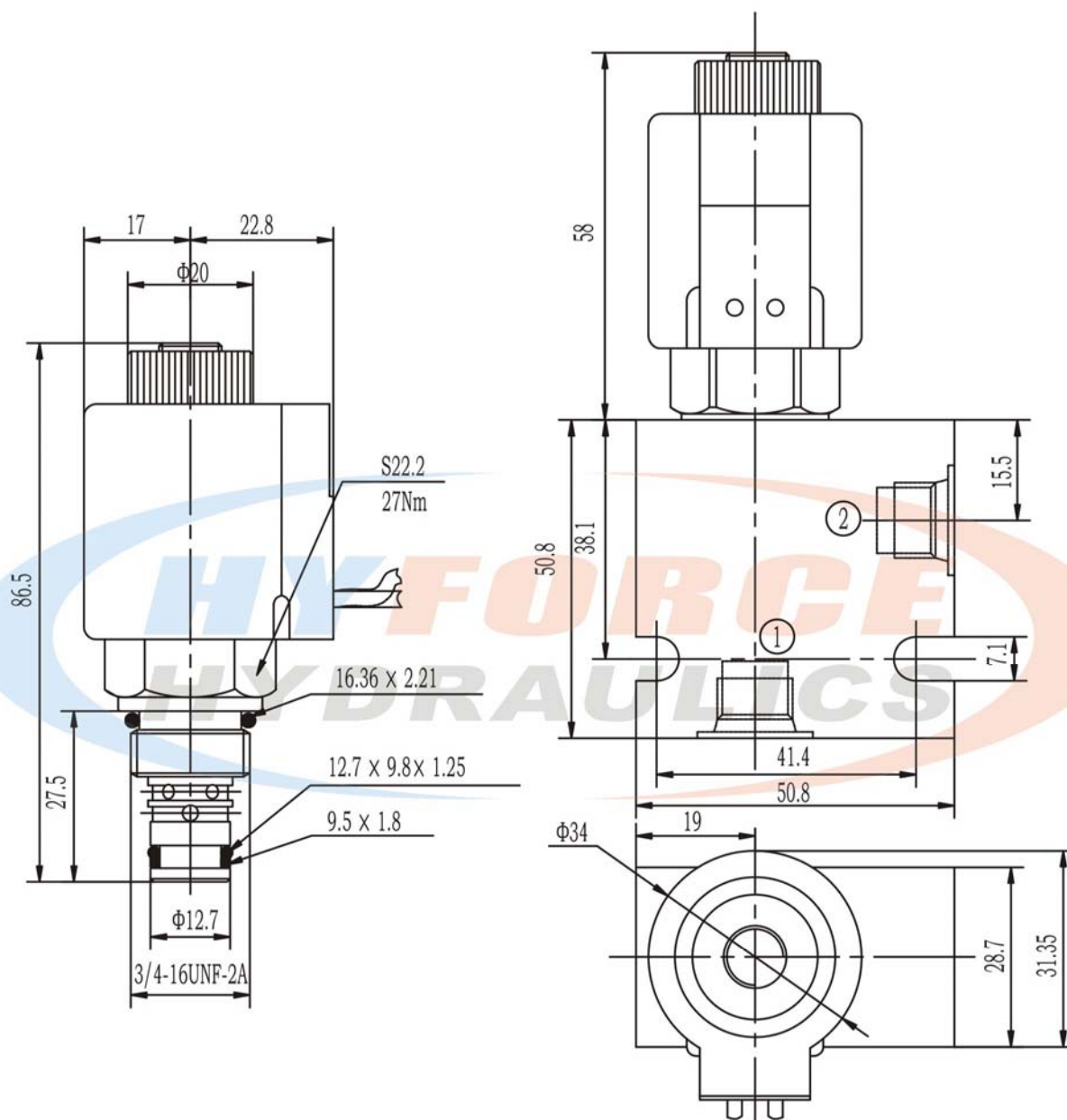
Remark: If need standard block, please refer to its catalogue in page L1

## Solenoid Operated On/Off Valve Series

## SV08-22 series valve dimensions

Unit: mm

H6



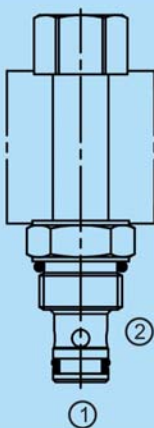
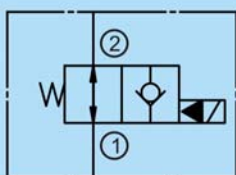


## Solenoid Operated On/Off Valve Series

### SV08-23 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

Reverse Flow De-energized

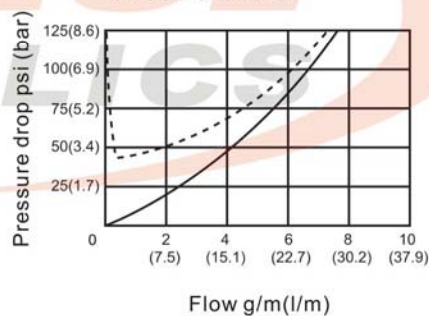


#### Technical data

Model		SV08-23
Max. flow rate (l/min)		23
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	123
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
① To ② --- Energized  
32 CST Oil / 38°C



#### How to order

SV	08	23	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

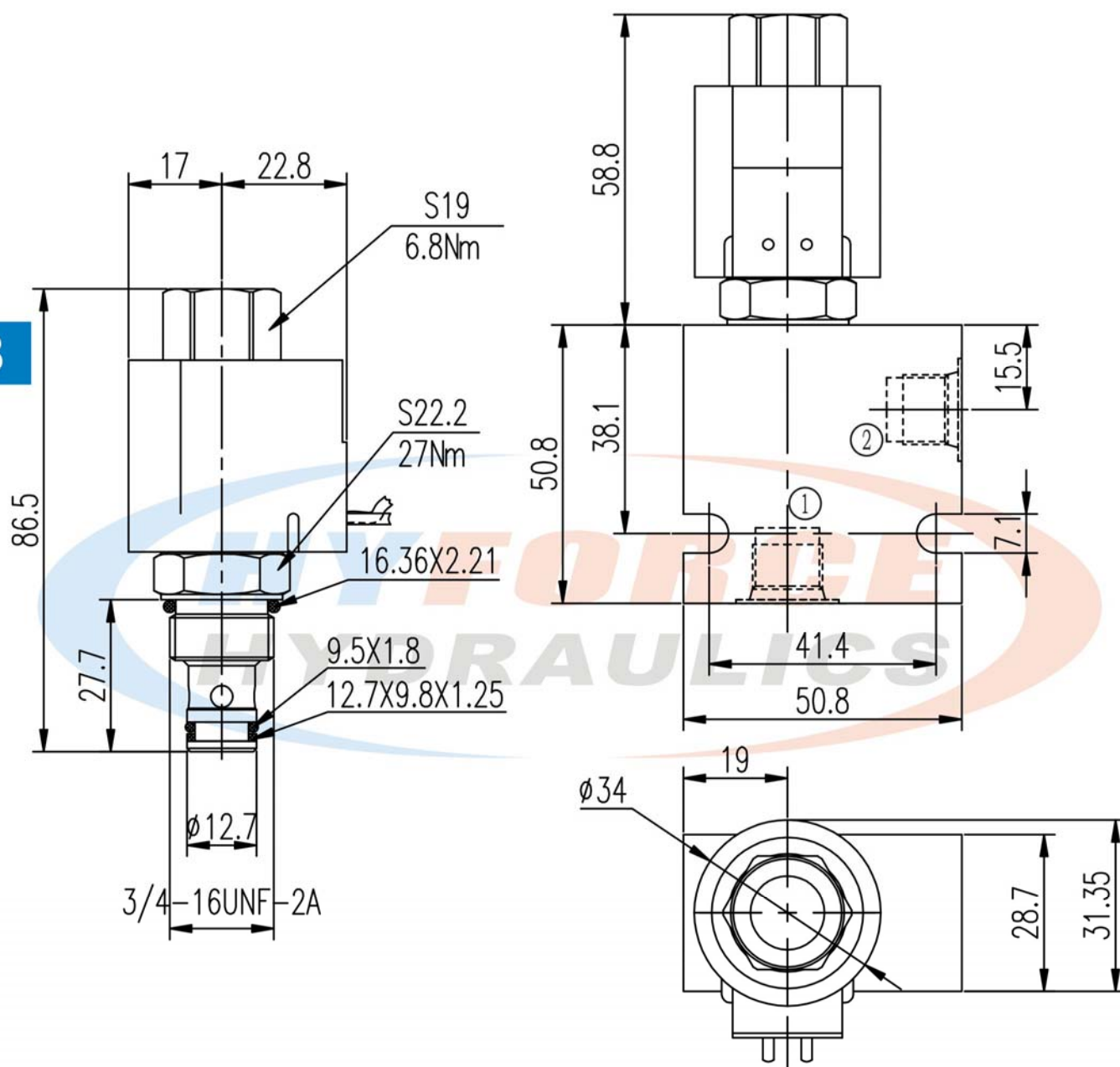
Remark: If need standard block, please refer to its catalogue in page L1

## Solenoid Operated On/Off Valve Series

### SV08-23 series valve dimensions

Unit: mm

H8

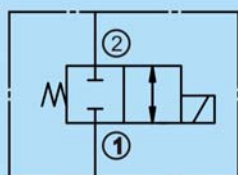




## Solenoid Operated On/Off Valve Series

### SV08-24 Series (2-Way, 2-Position, Spool Type, Normally Closed)

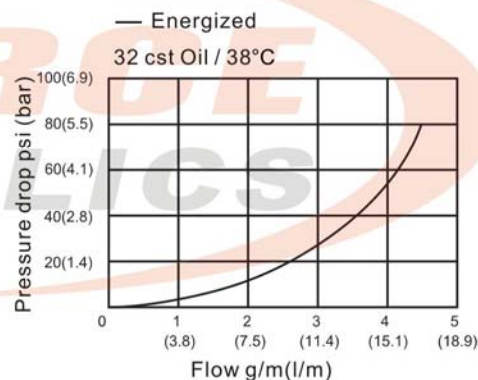
#### Symbol



#### Technical data

Model		SV08-24
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	95
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow



#### How to order

SV	08	24	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L1

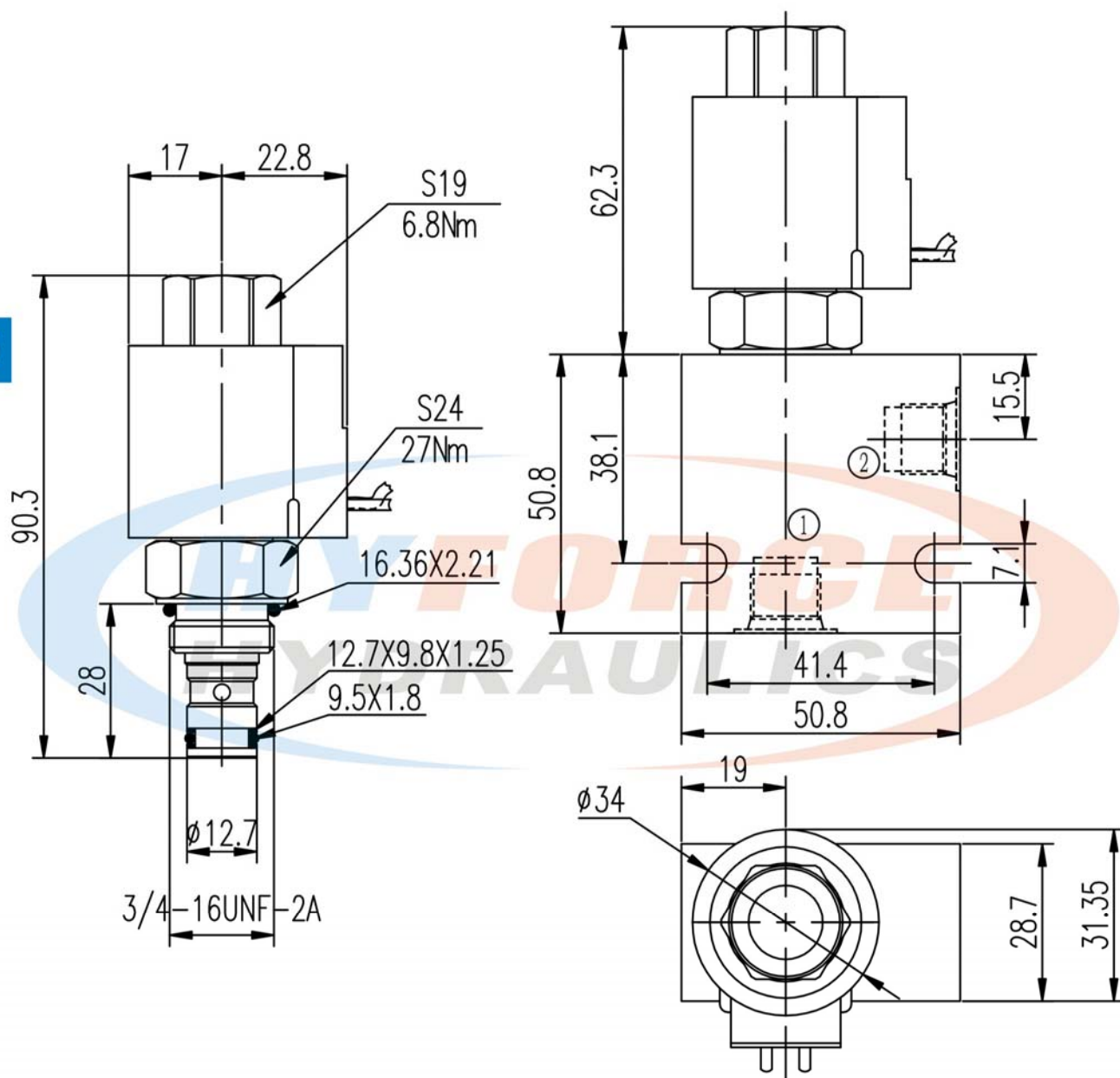


## Solenoid Operated On/Off Valve Series

### SV08-24 series valve dimensions

Unit: mm

H10

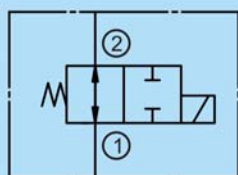




## Solenoid Operated On/Off Valve Series

### SV08-25 Series (2-Way, 2-Position, Spool Type, Normally Open)

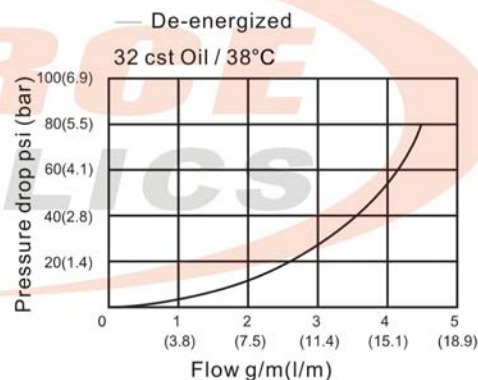
#### Symbol



#### Technical data

Model		SV08-25
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	95
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow



#### How to order

SV	08	25	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L1

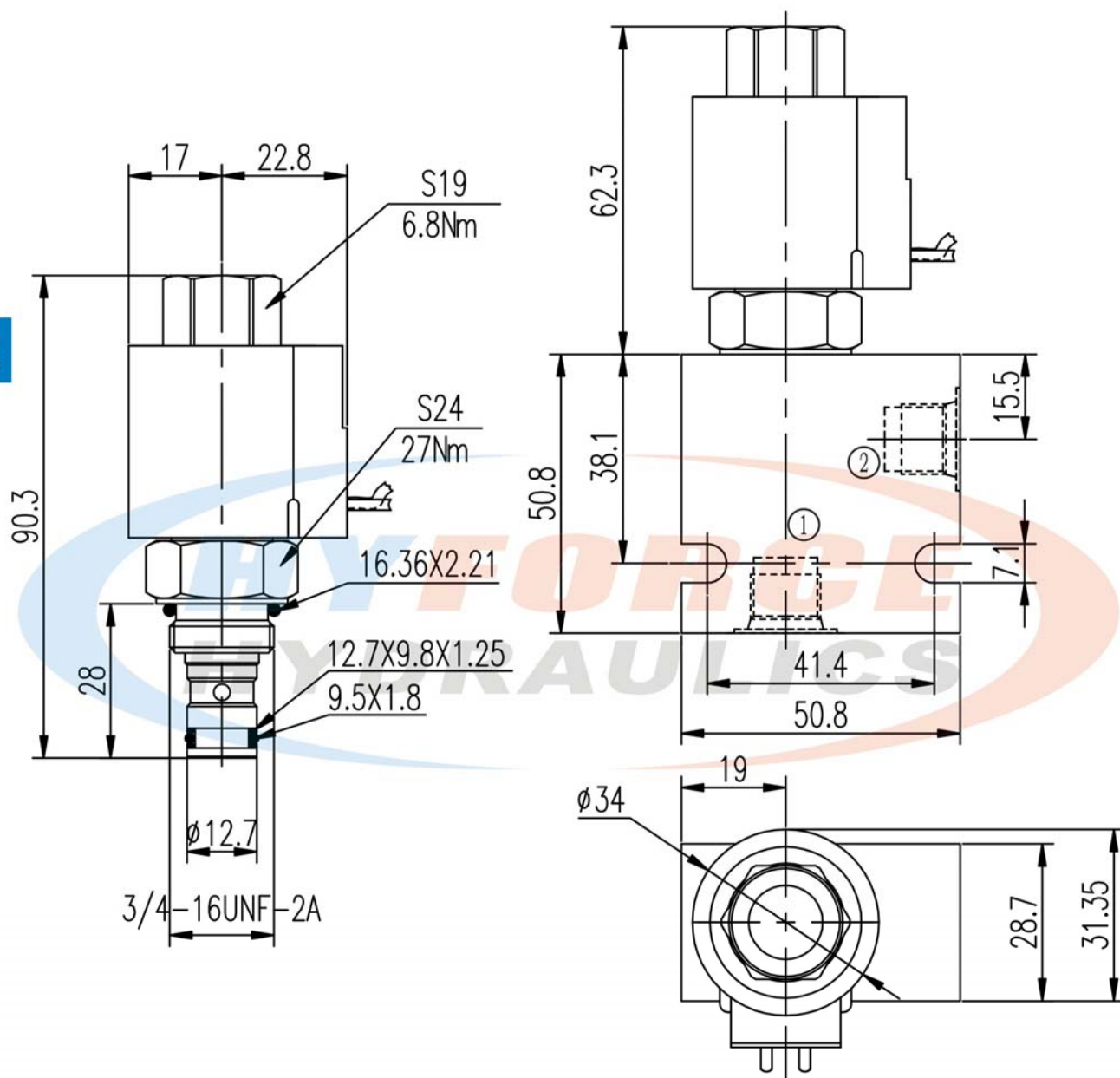


## Solenoid Operated On/Off Valve Series

### SV08-25 series valve dimensions

Unit: mm

H12



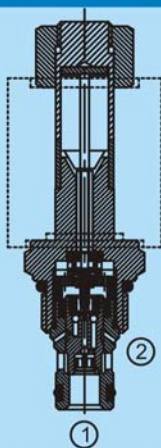
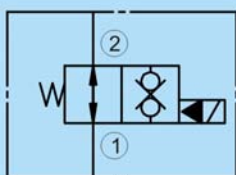


## Solenoid Operated On/Off Valve Series

### SV08-27 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

Bi-directional Blocking Energized

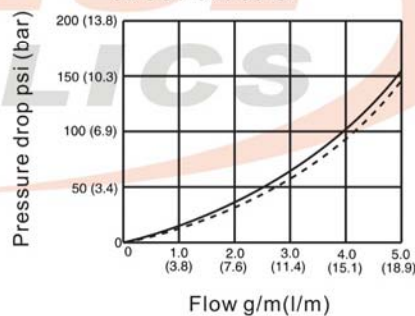


#### Technical data

Model		SV08-27
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	120
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
① To ② --- De-energized  
32 CST Oil / 38°C



#### How to order

SV	08	27	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

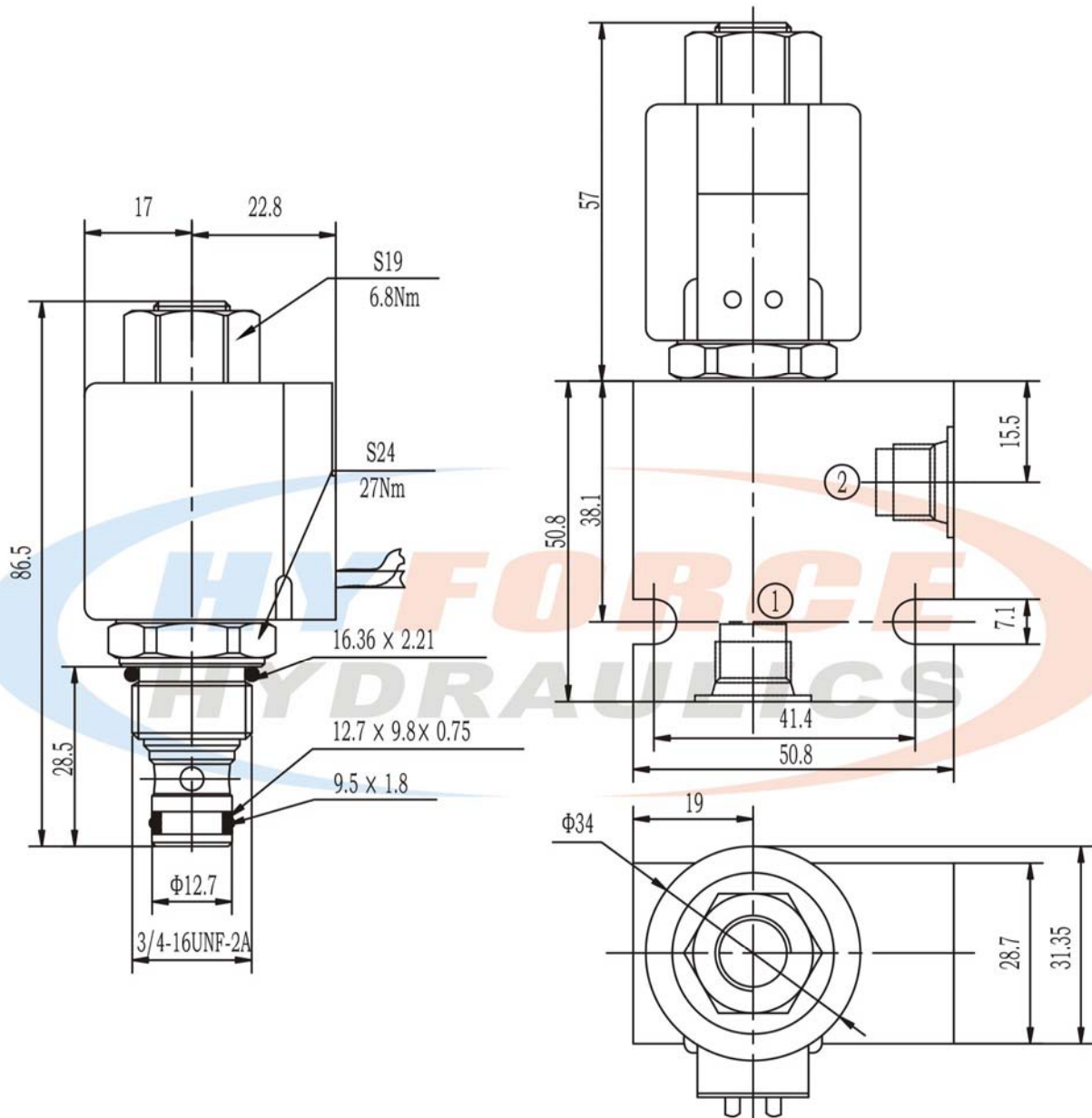
Remark: If need standard block, please refer to its catalogue in page L1

## Solenoid Operated On/Off Valve Series

### SV08-27 series valve dimensions

Unit: mm

H14



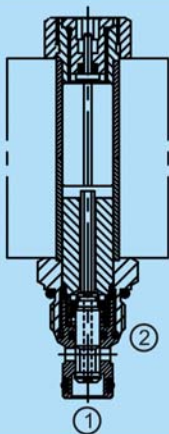
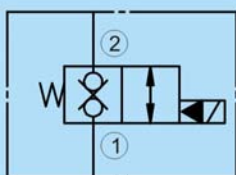


## Solenoid Operated On/Off Valve Series

### SV08-28 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

Bi-directional Blocking De-energized



#### Technical data

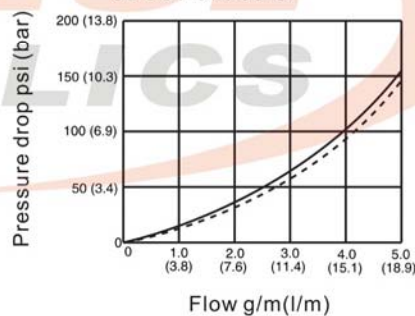
Model		SV08-28
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	163
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized

① To ② --- Energized

32 CST Oil / 38°C



#### How to order

SV	08	28	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L1

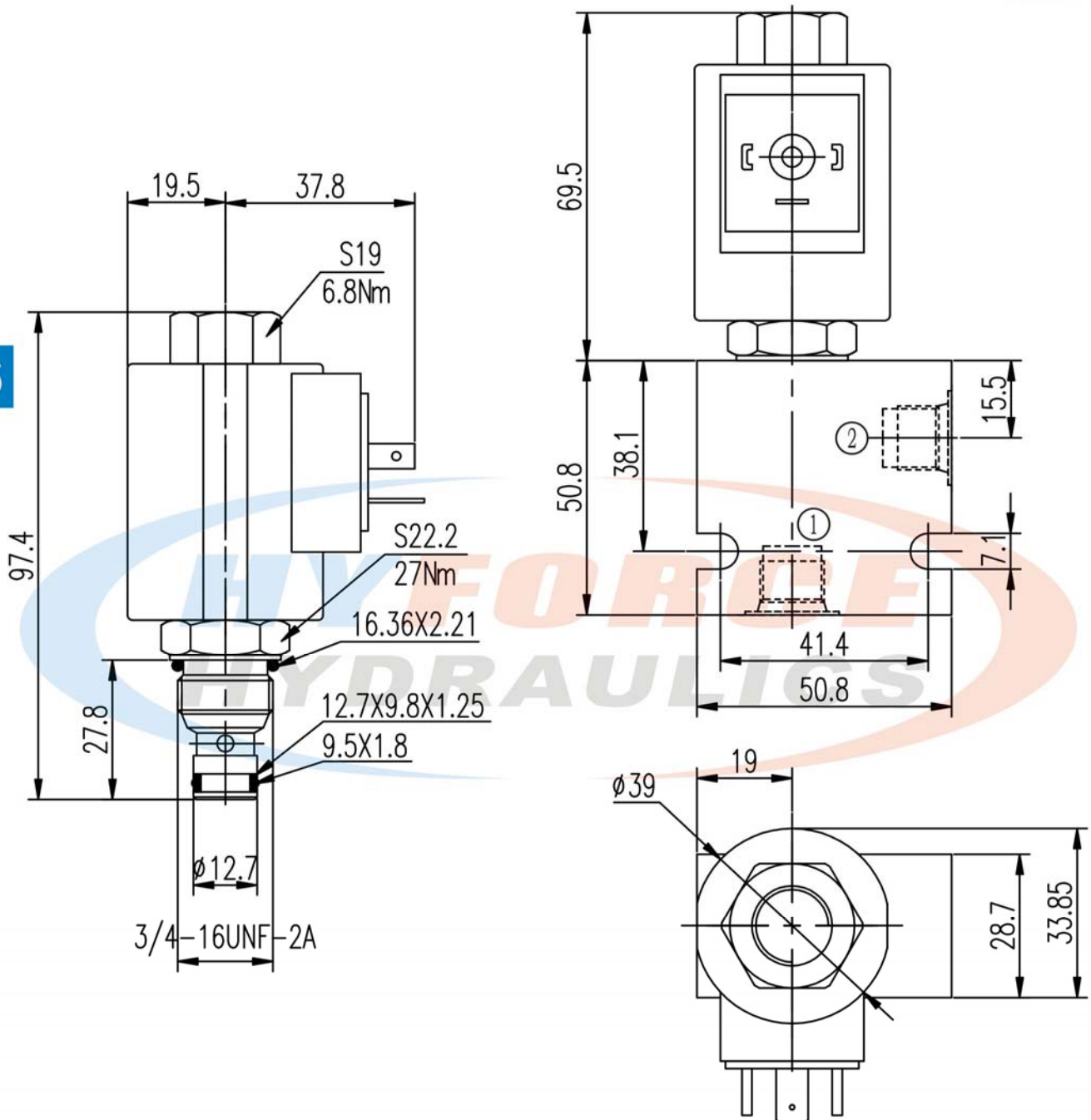


## Solenoid Operated On/Off Valve Series

### SV08-28 series valve dimensions

Unit: mm

H16

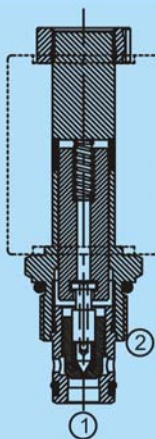
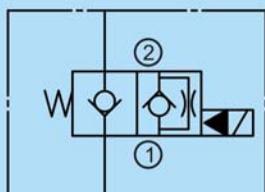




## Solenoid Operated On/Off Valve Series

### SV10-20 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

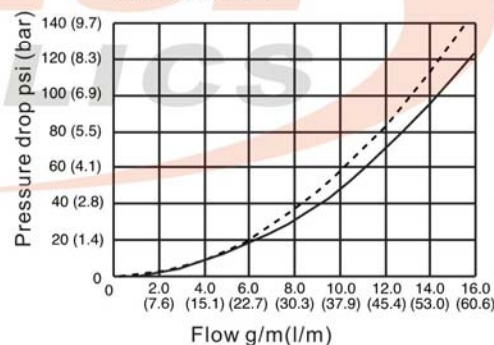


#### Technical data

Model		SV10-20
Max. flow rate (l/min)		60
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	165
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
 ① To ② --- De-energized  
 32 cst Oil / 38°C



#### How to order

SV	10	20	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4

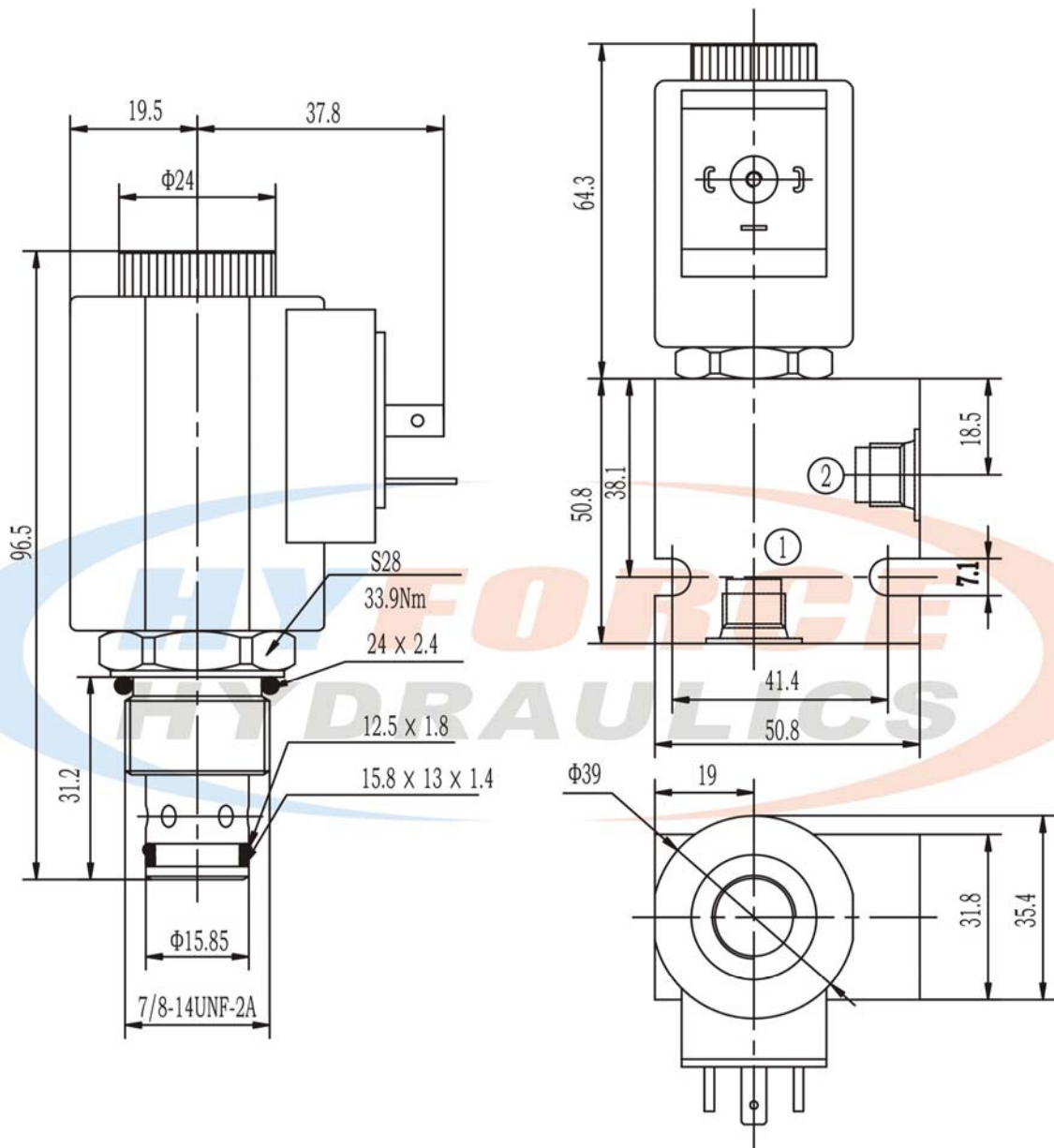


## Solenoid Operated On/Off Valve Series

### SV10-20 series valve dimensions

Unit: mm

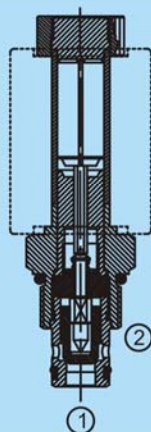
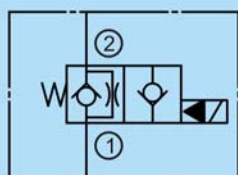
H18



## Solenoid Operated On/Off Valve Series

### SV10-21 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

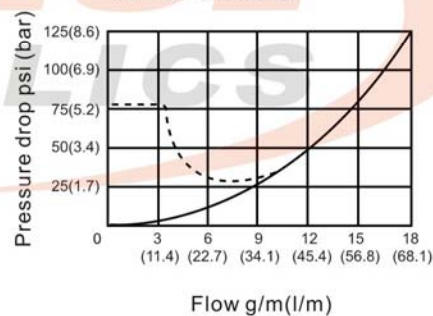


#### Technical data

Model		SV10-21
Max. flow rate (l/min)		68
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	196
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
① To ② --- Energized  
32 CST Oil / 38°C



#### How to order

SV	10	21	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4



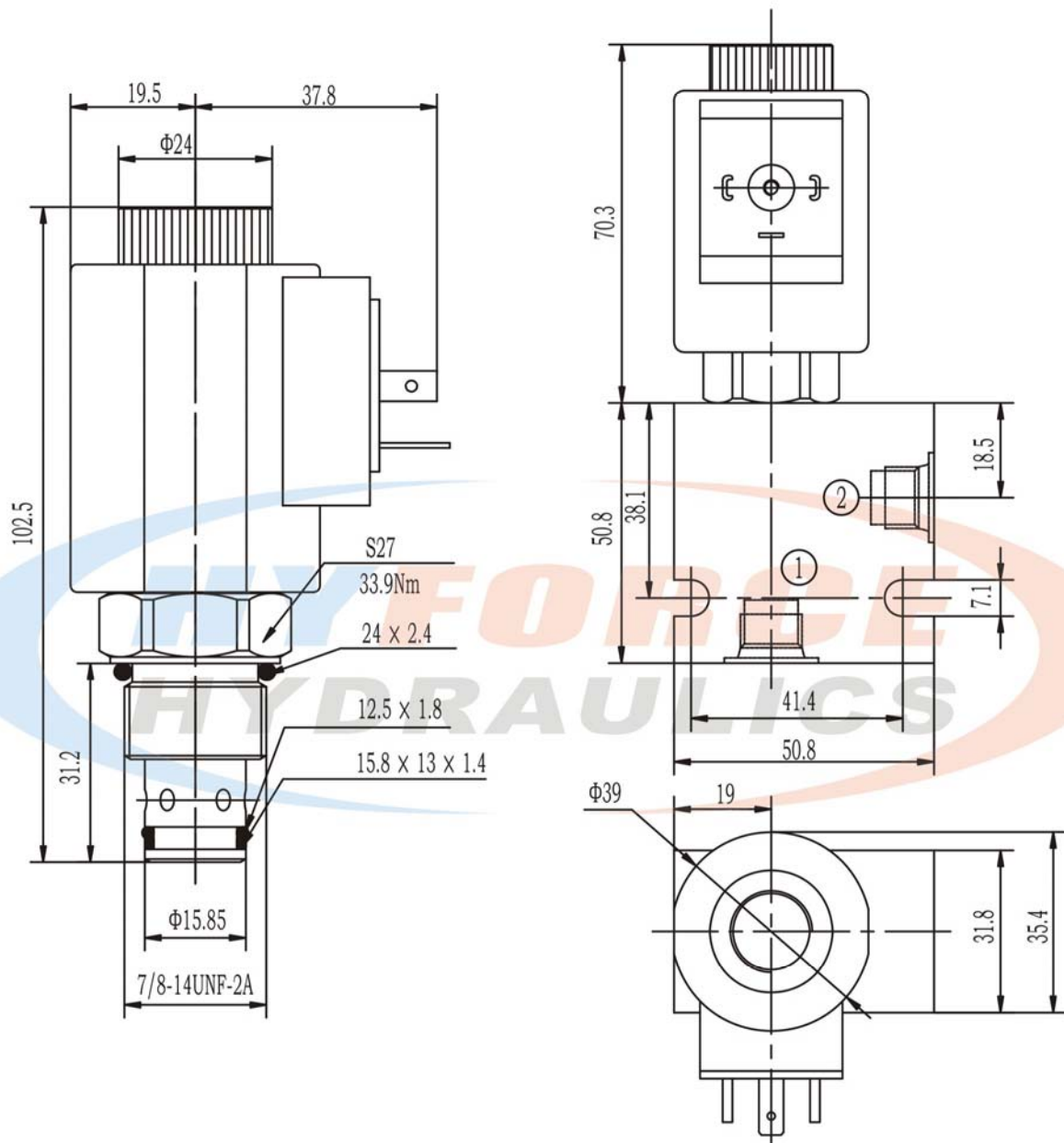


## Solenoid Operated On/Off Valve Series

### SV10-21 series valve dimensions

Unit: mm

H20

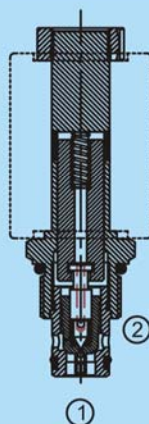
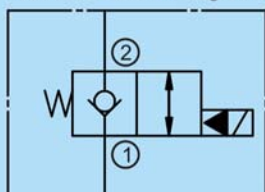


## Solenoid Operated On/Off Valve Series

### SV10-22 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

Reverse Flow Energized

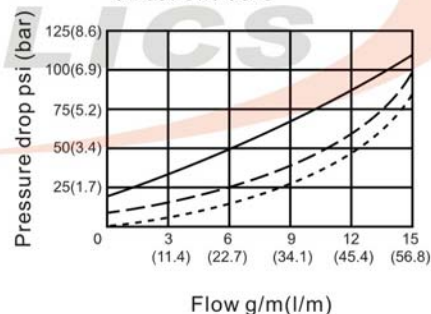


#### Technical data

Model		SV10-22
Max. flow rate (l/min)		60
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	165
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① --- Energized  
 ① To ② — De-energized  
 ① To ② -- Energized  
 32 cst Oil / 38°C



#### How to order

SV	10	22	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4

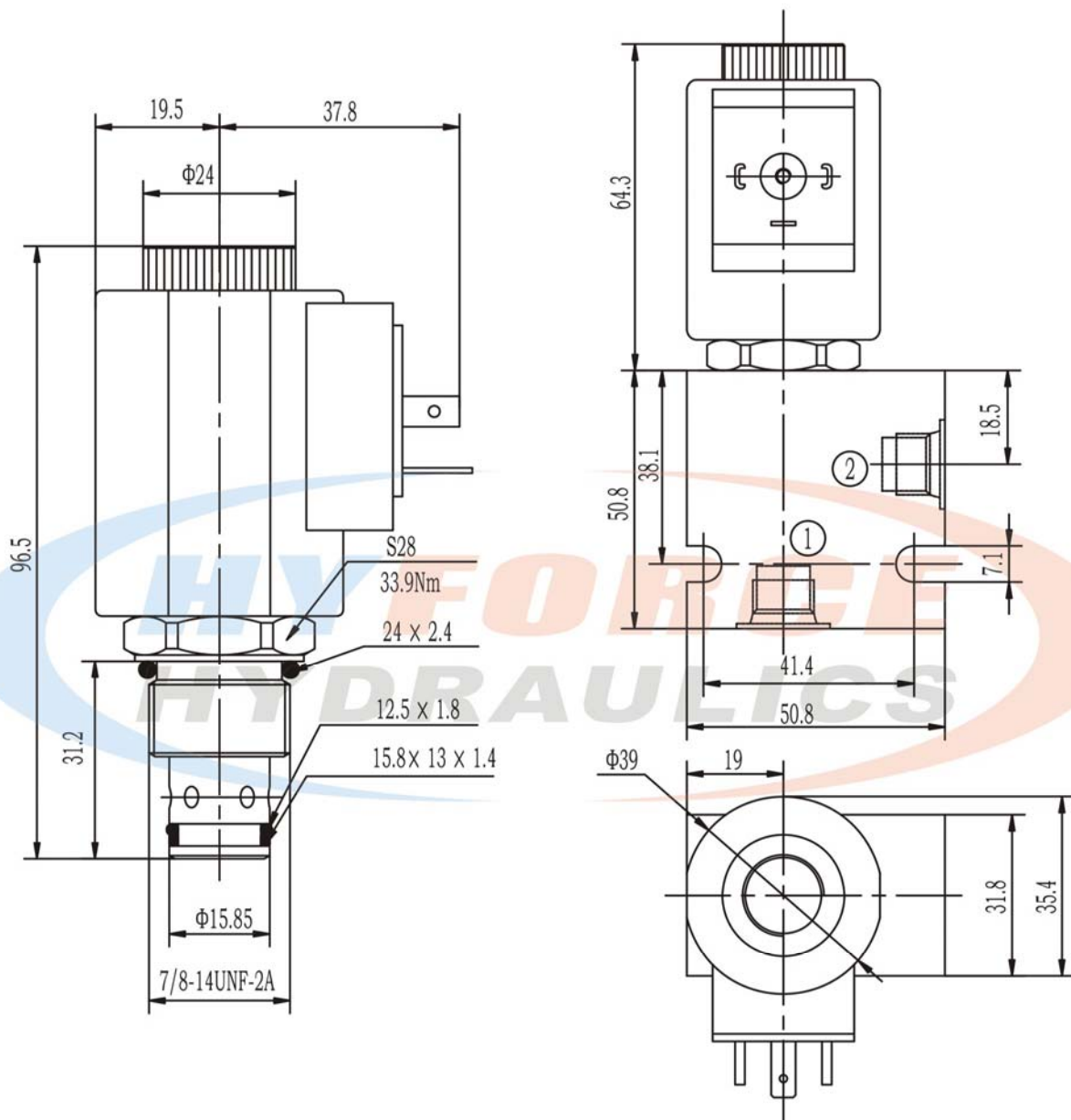


## Solenoid Operated On/Off Valve Series

### SV10-22 series valve dimensions

Unit: mm

H22



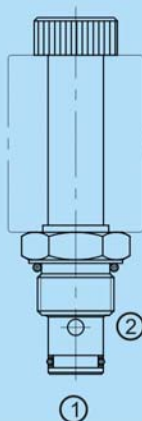
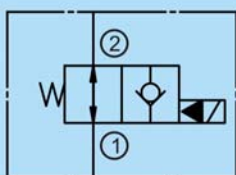


## Solenoid Operated On/Off Valve Series

### SV10-23 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

Reverse Flow De-energized

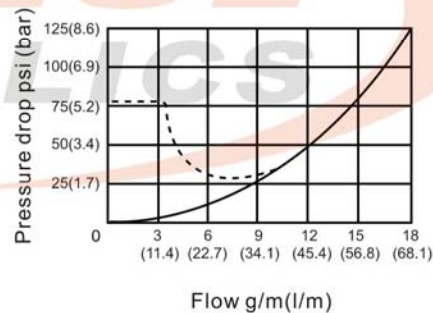


#### Technical data

Model		SV10-23
Max. flow rate (l/min)		68
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	200
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
① To ② --- Energized  
32 CST Oil / 38°C



#### How to order

SV	10	23	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

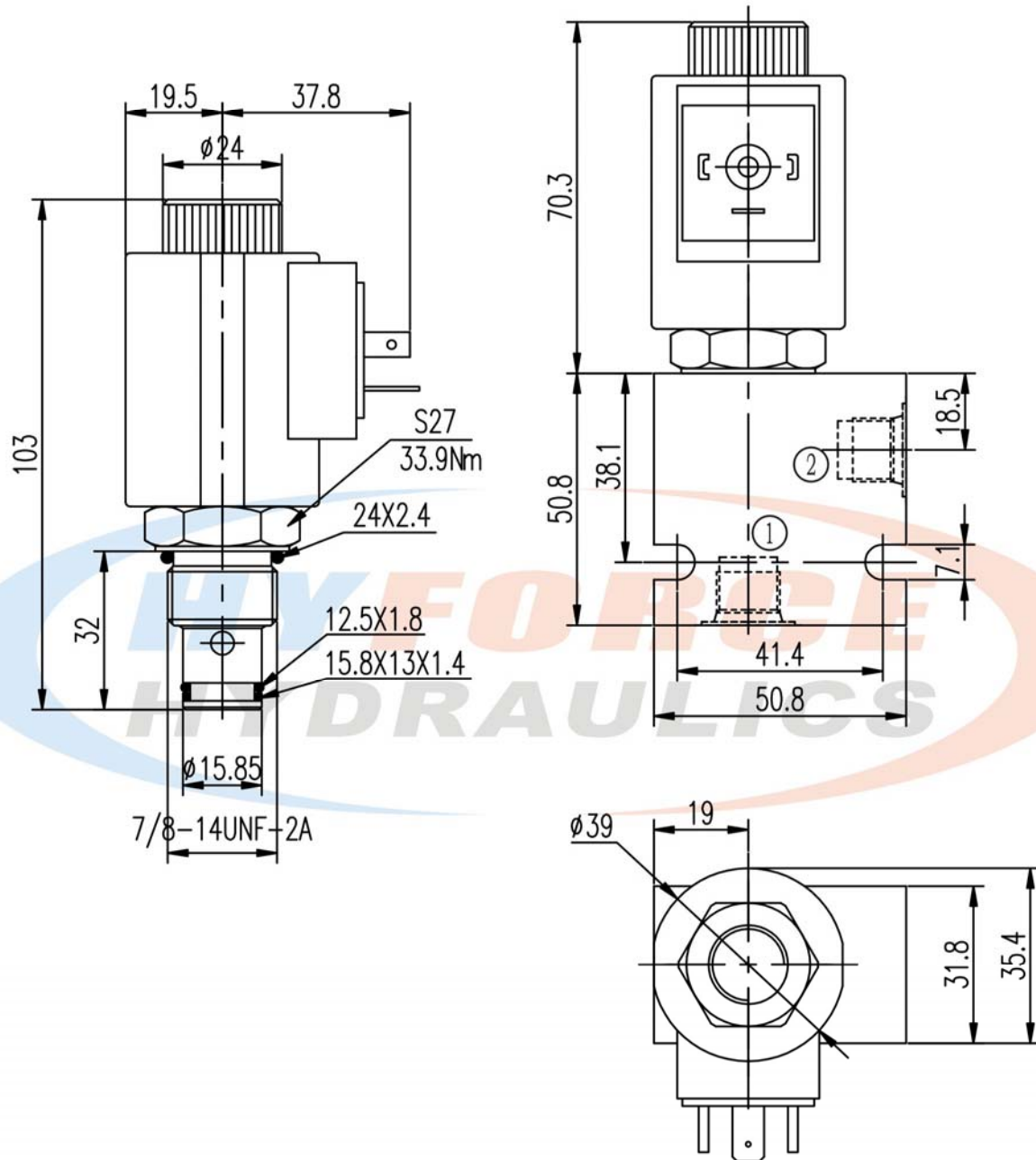
Remark: If need standard block, please refer to its catalogue in page L4

## Solenoid Operated On/Off Valve Series

### SV10-23 series valve dimensions

Unit: mm

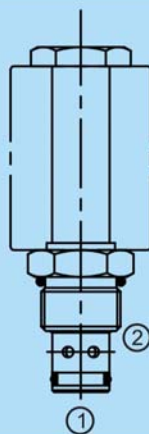
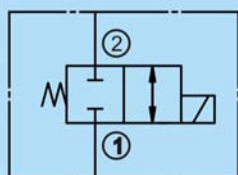
H24



## Solenoid Operated On/Off Valve Series

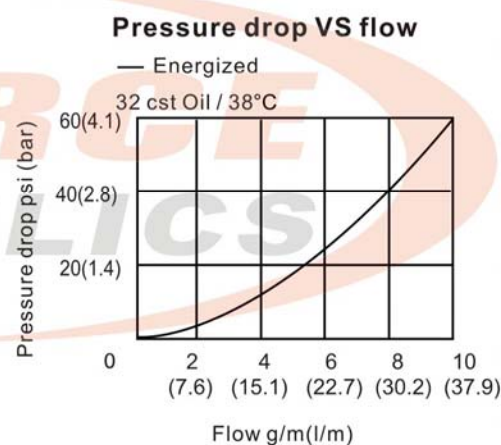
### SV10-24 Series (2-Way, 2-Position, Spool Type, Normally Closed)

#### Symbol



#### Technical data

Model		SV10-24
Max. flow rate (l/min)		38
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	172
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15



#### How to order

SV	10	24	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4



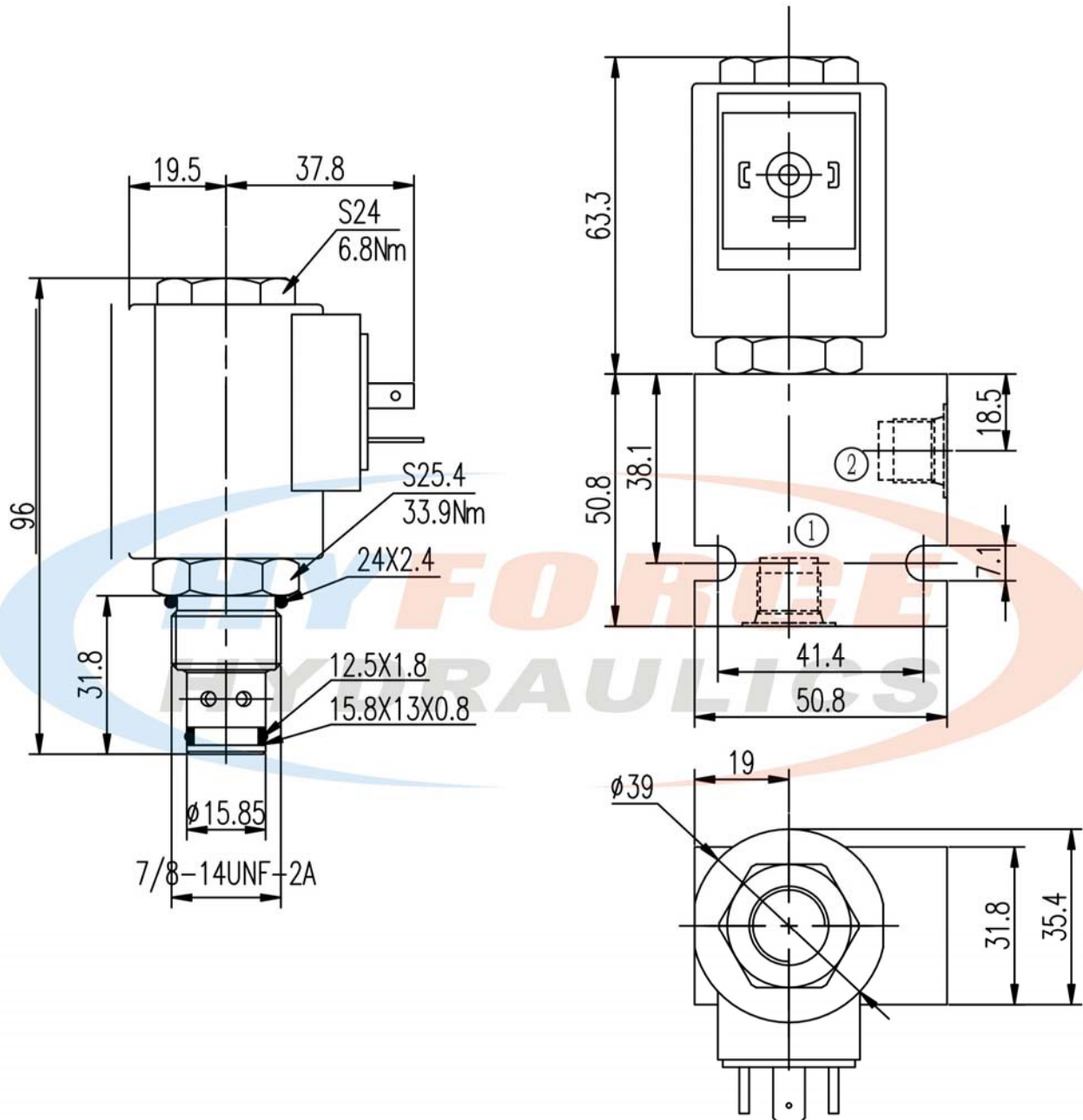


## Solenoid Operated On/Off Valve Series

### SV10-24 series valve dimensions

Unit: mm

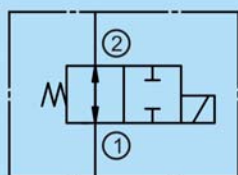
H26



## Solenoid Operated On/Off Valve Series

### SV10-25 Series (2-Way, 2-Position, Spool Type, Normally Open)

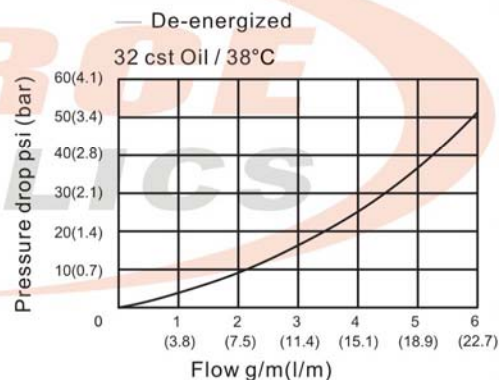
#### Symbol



#### Technical data

Model		SV10-25
Max. flow rate (l/min)		22
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	172
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow



#### How to order

SV	10	25	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4

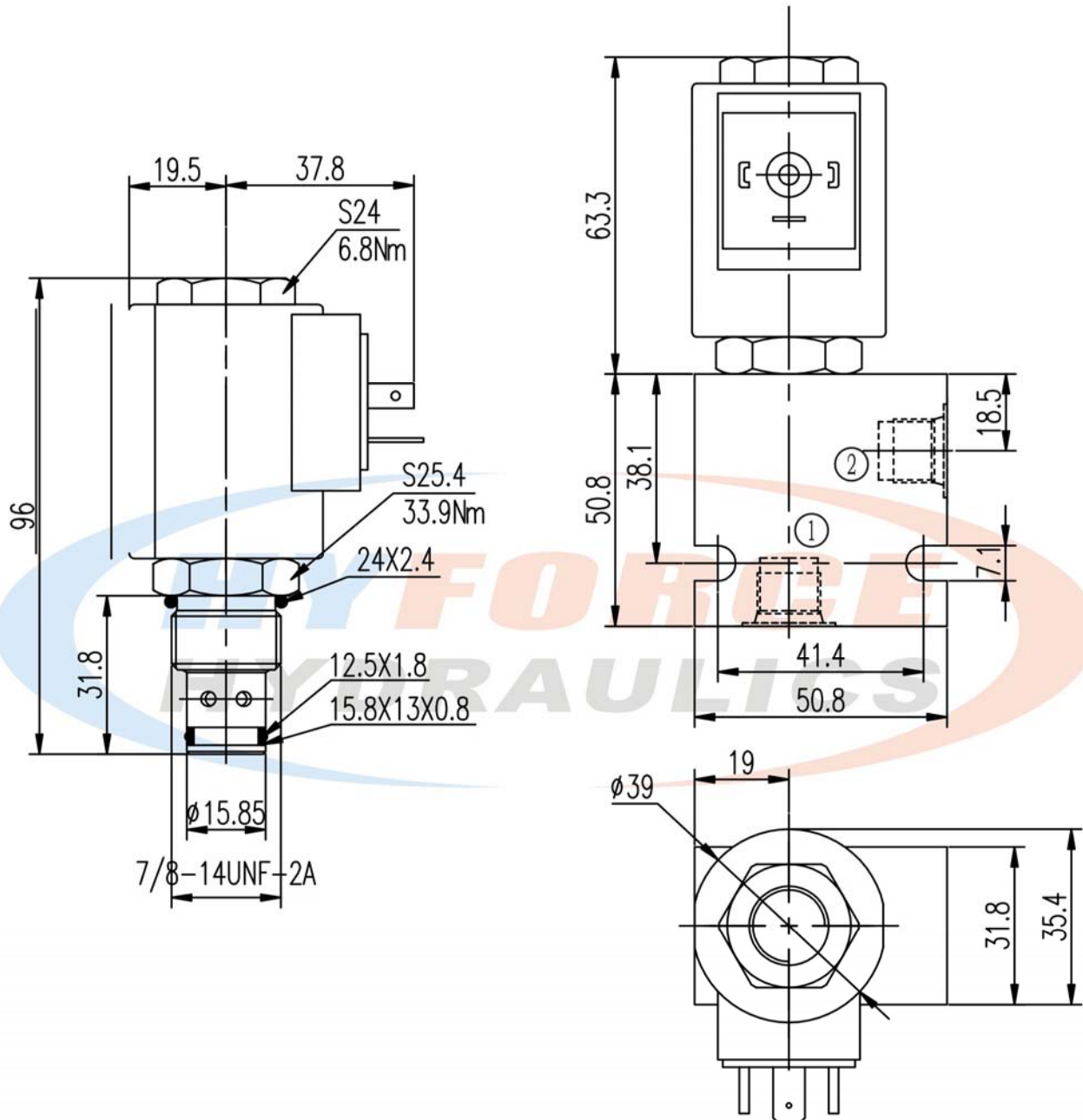


## Solenoid Operated On/Off Valve Series

### SV10-25 series valve dimensions

Unit: mm

H28



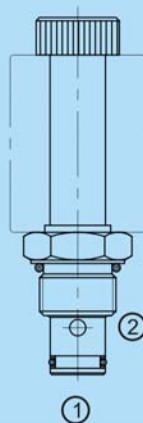
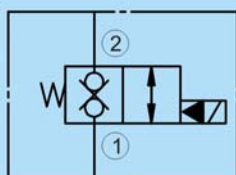


## Solenoid Operated On/Off Valve Series

### SV10-28 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

Bi-directional Blocking De-energized

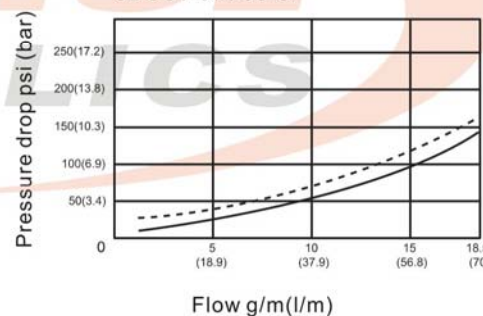


#### Technical data

Model		SV10-28
Max. flow rate (l/min)		20
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	200
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
① To ② --- Energized  
32 CST Oil / 38°C



#### How to order

SV	10	28	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L4

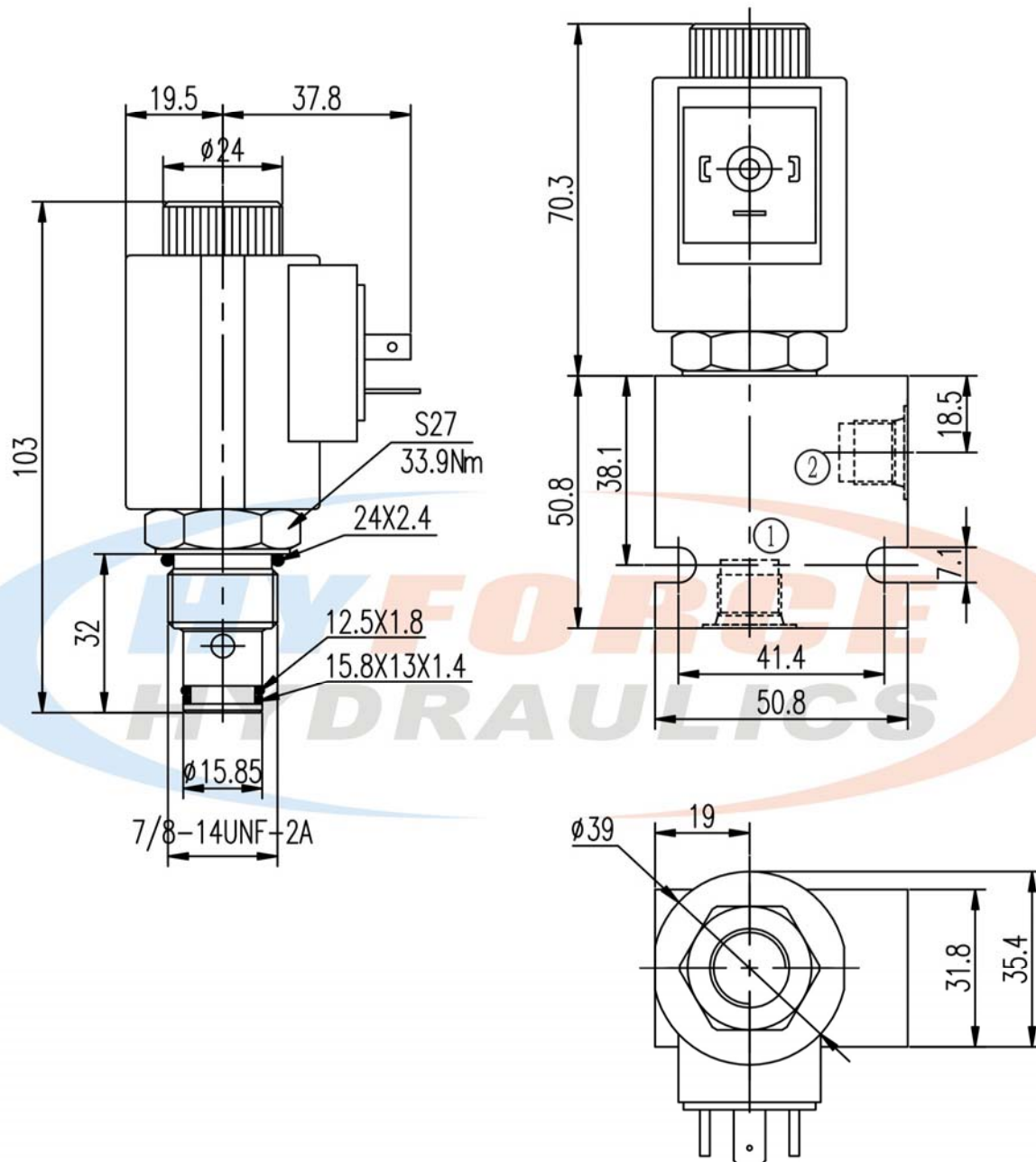


## Solenoid Operated On/Off Valve Series

### SV10-28 series valve dimensions

Unit: mm

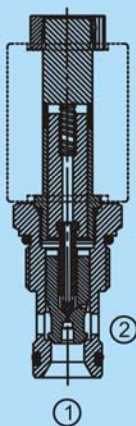
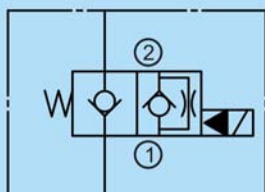
H30



## Solenoid Operated On/Off Valve Series

### SV12-20 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

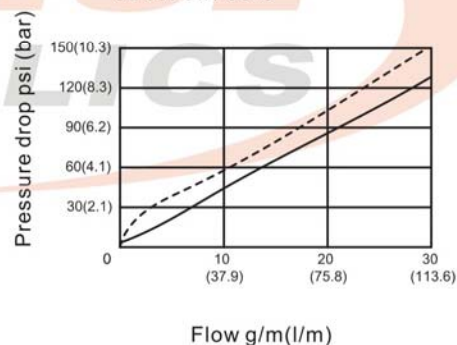


#### Technical data

Model		SV12-20
Max. flow rate (l/min)		113
Internal leakage at 210bar (ml/min)		≤ 0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	270
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
① To ② --- De-energized  
32 cst Oil / 38°C



#### How to order

SV	12	20	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC12-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L7

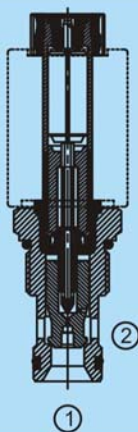
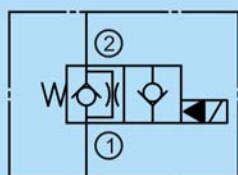




## Solenoid Operated On/Off Valve Series

### SV12-21 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol



#### Technical data

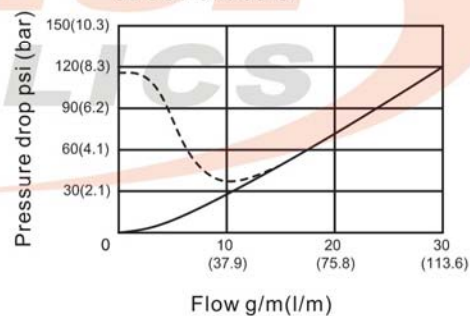
Model		SV12-21
Max. flow rate (l/min)		113
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	285
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized

① To ② --- Energized

32 CST Oil / 38°C



#### How to order

SV	12	21	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC12-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

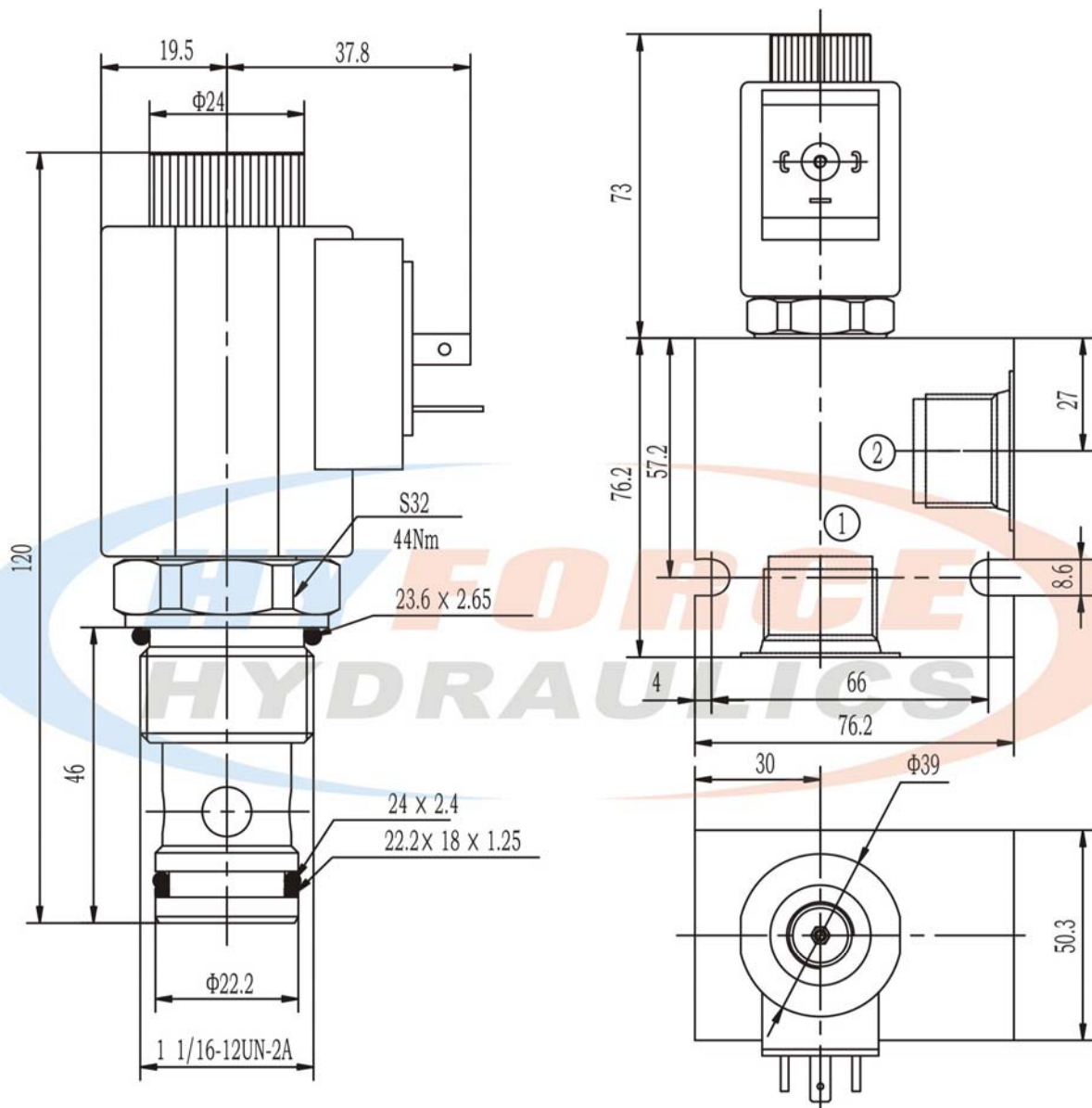
Remark: If need standard block, please refer to its catalogue in page L7

## Solenoid Operated On/Off Valve Series

### SV12-21 series valve dimensions

Unit: mm

H34



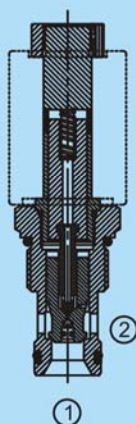
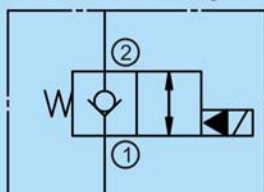


## Solenoid Operated On/Off Valve Series

### SV12-22 Series (2-Way, 2-Position, Poppet Type, Normally Closed)

#### Symbol

Reverse Flow Energized

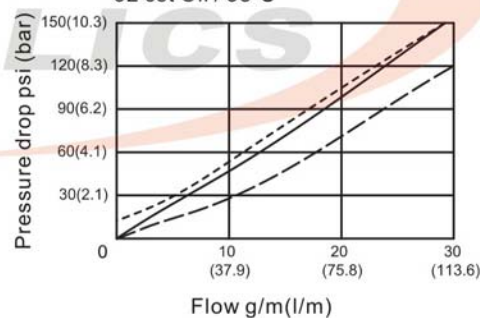


#### Technical data

Model		SV12-22
Max. flow rate (l/min)		113
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	270
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

- ② To ① — Energized
  - ① To ② --- De-energized
  - ① To ② -- Energized
- 32 cst Oil / 38°C



#### How to order

SV	12	22	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC12-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L7

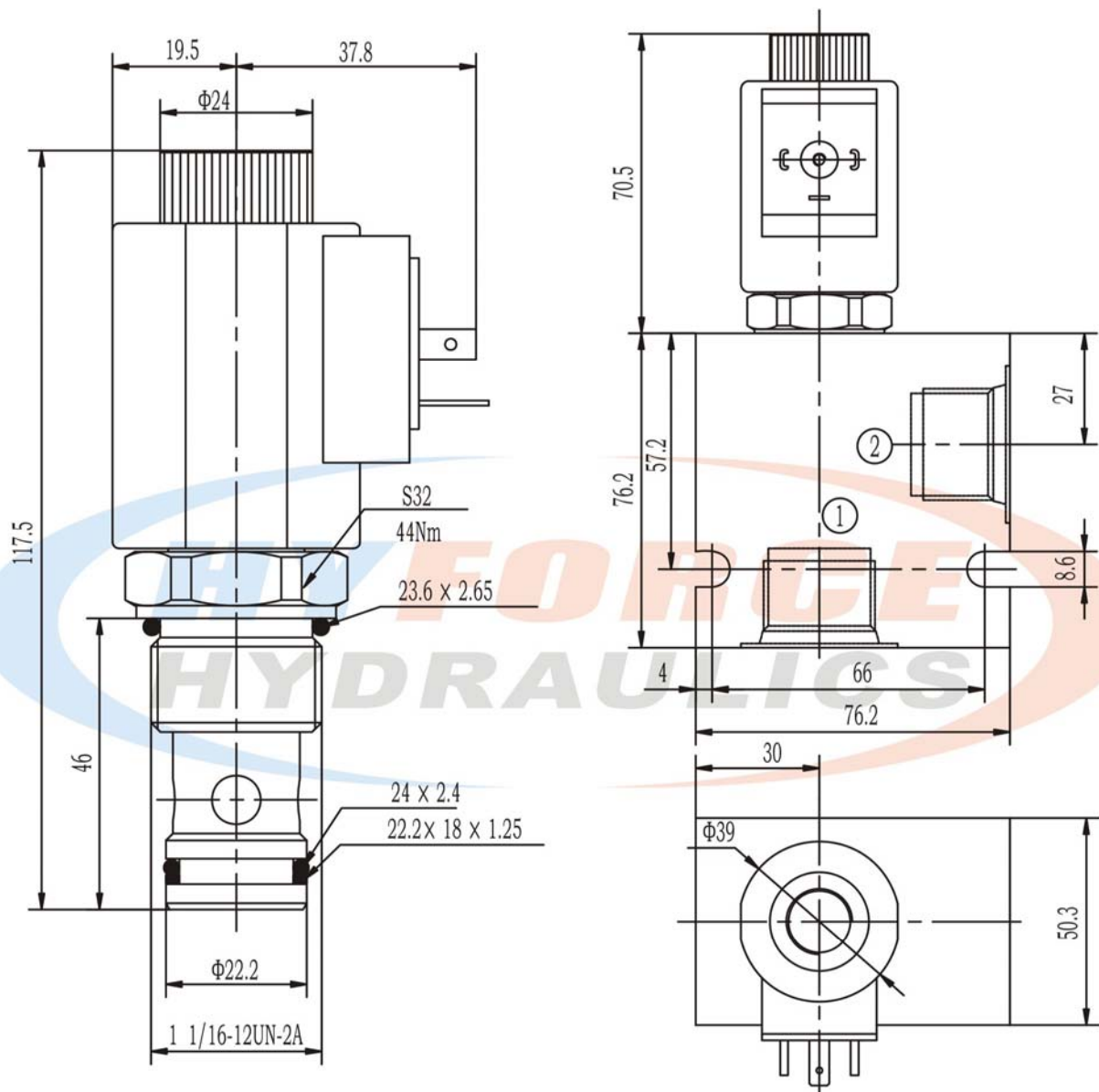


## Solenoid Operated On/Off Valve Series

### SV12-22 series valve dimensions

Unit: mm

H36

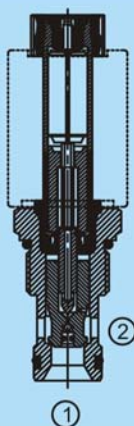
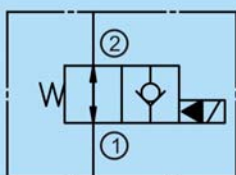


## Solenoid Operated On/Off Valve Series

### SV12-23 Series (2-Way, 2-Position, Poppet Type, Normally Open)

#### Symbol

Reverse Flow De-energized



#### Technical data

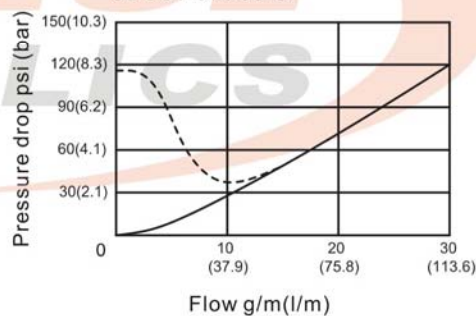
Model		SV12-23
Max. flow rate (l/min)		113
Internal leakage at 210bar (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	285
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized

① To ② --- Energized

32 CST Oil / 38°C



#### How to order

SV	12	23	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC12-2	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L7

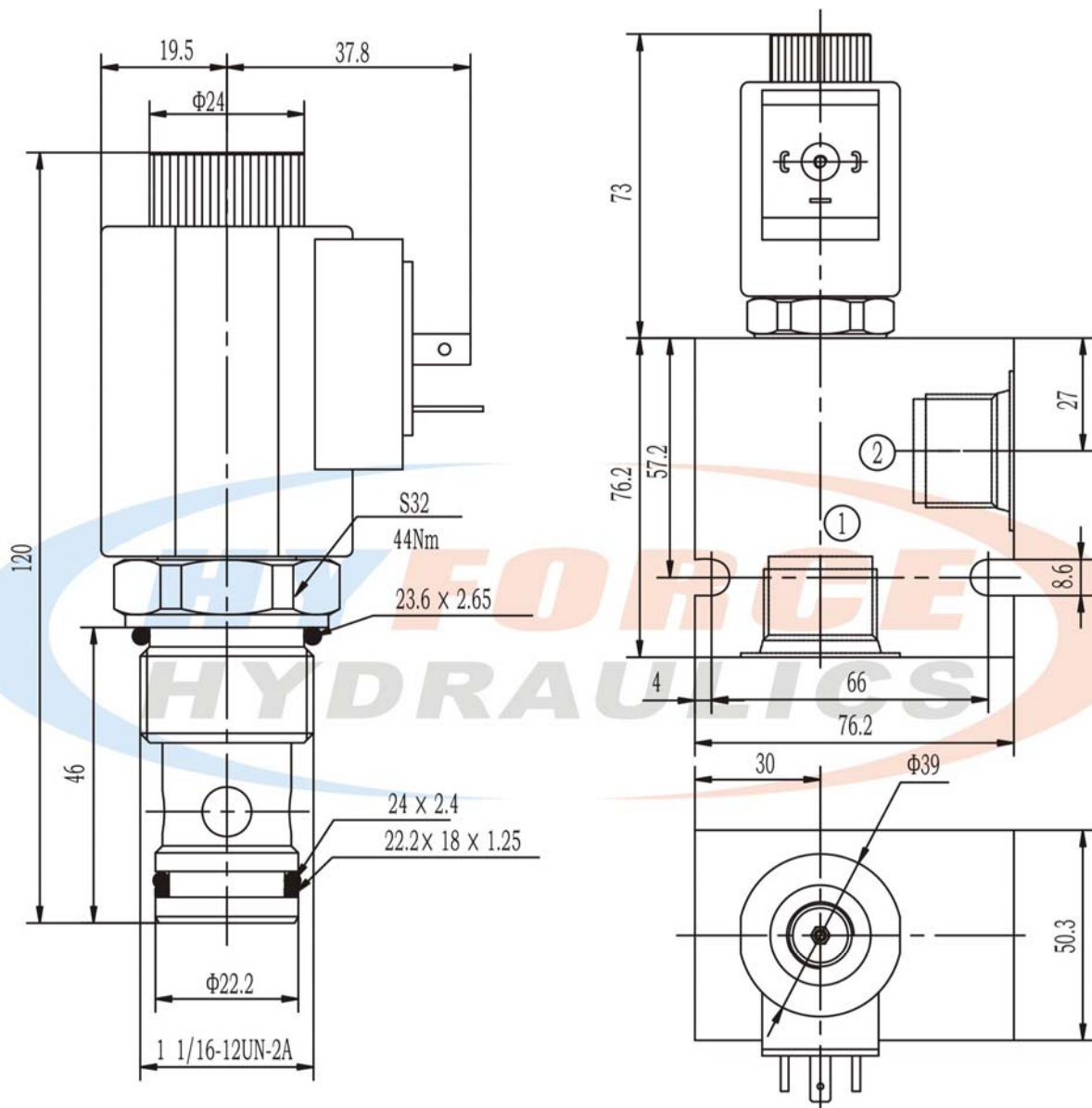


## Solenoid Operated On/Off Valve Series

### SV12-23 series valve dimensions

Unit: mm

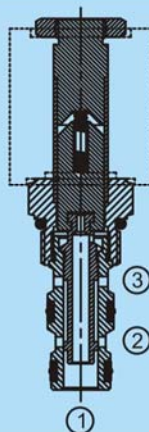
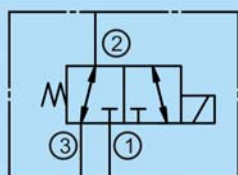
H38



## Solenoid Operated On/Off Valve Series

### SV08-30 Series (3-Way, 2-Position, Spool Type)

#### Symbol

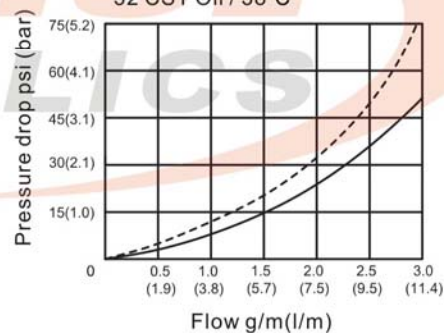


#### Technical data

Model		SV08-30
Max. flow rate (l/min)		11
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	109
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
② To ③ --- De-energized  
32 CST Oil / 38°C



#### How to order

SV	08	30	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L2

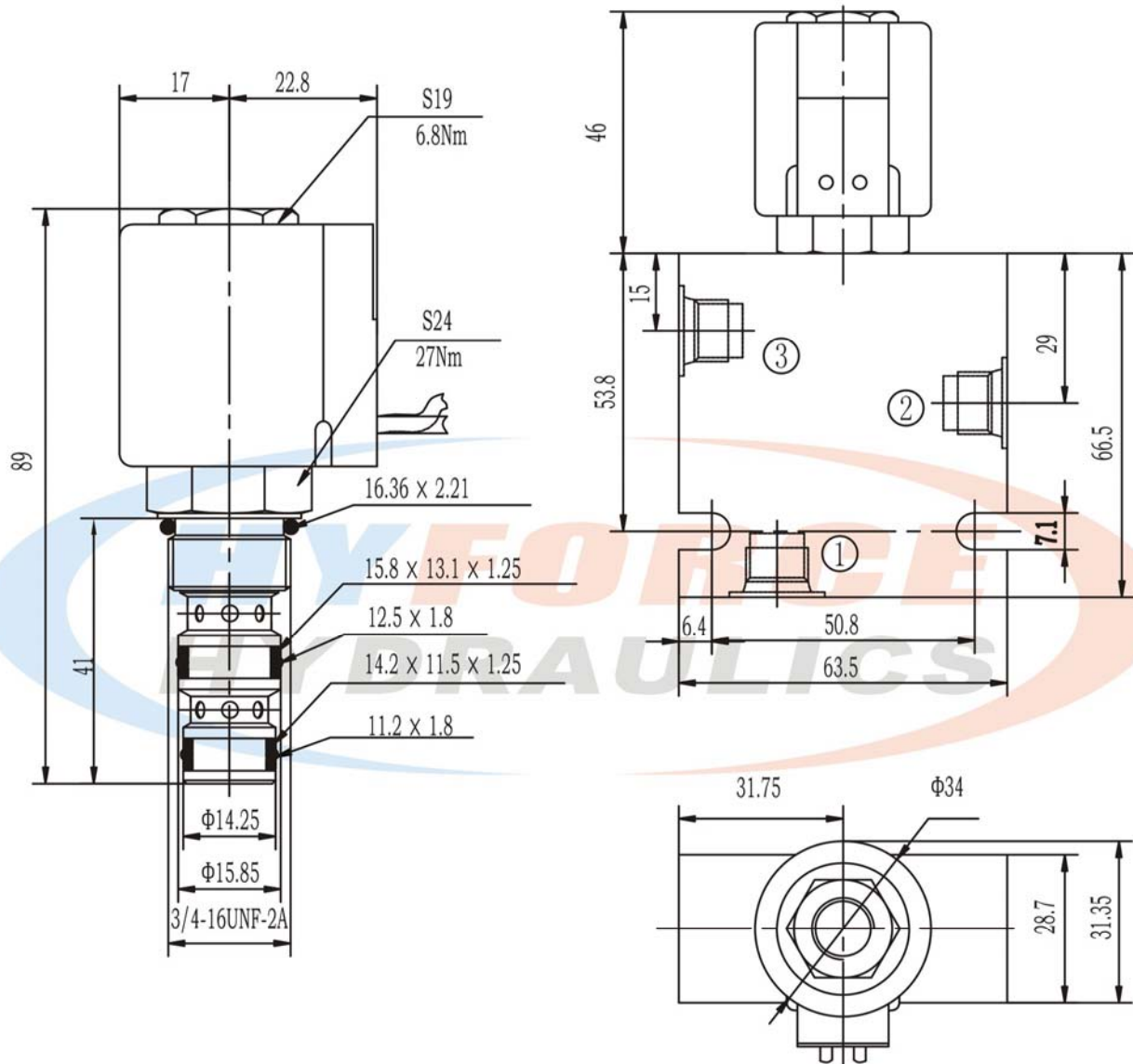


## Solenoid Operated On/Off Valve Series

### SV08-30 series valve dimensions

Unit: mm

H40

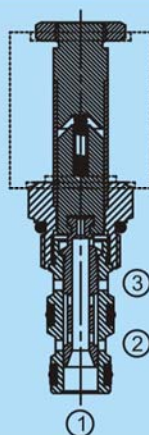
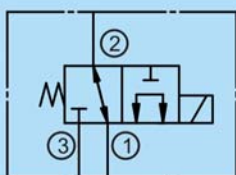




## Solenoid Operated On/Off Valve Series

### SV08-31 Series (3-Way, 2-Position, Spool Type)

#### Symbol



#### Technical data

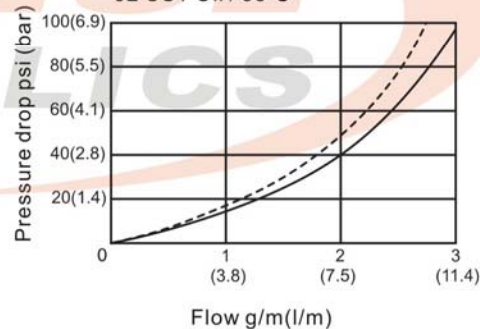
Model		SV08-31
Max. flow rate (l/min)		11
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	109
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized

③ To ① --- Energized

32 CST Oil / 38°C



#### How to order

SV	08	31	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L2

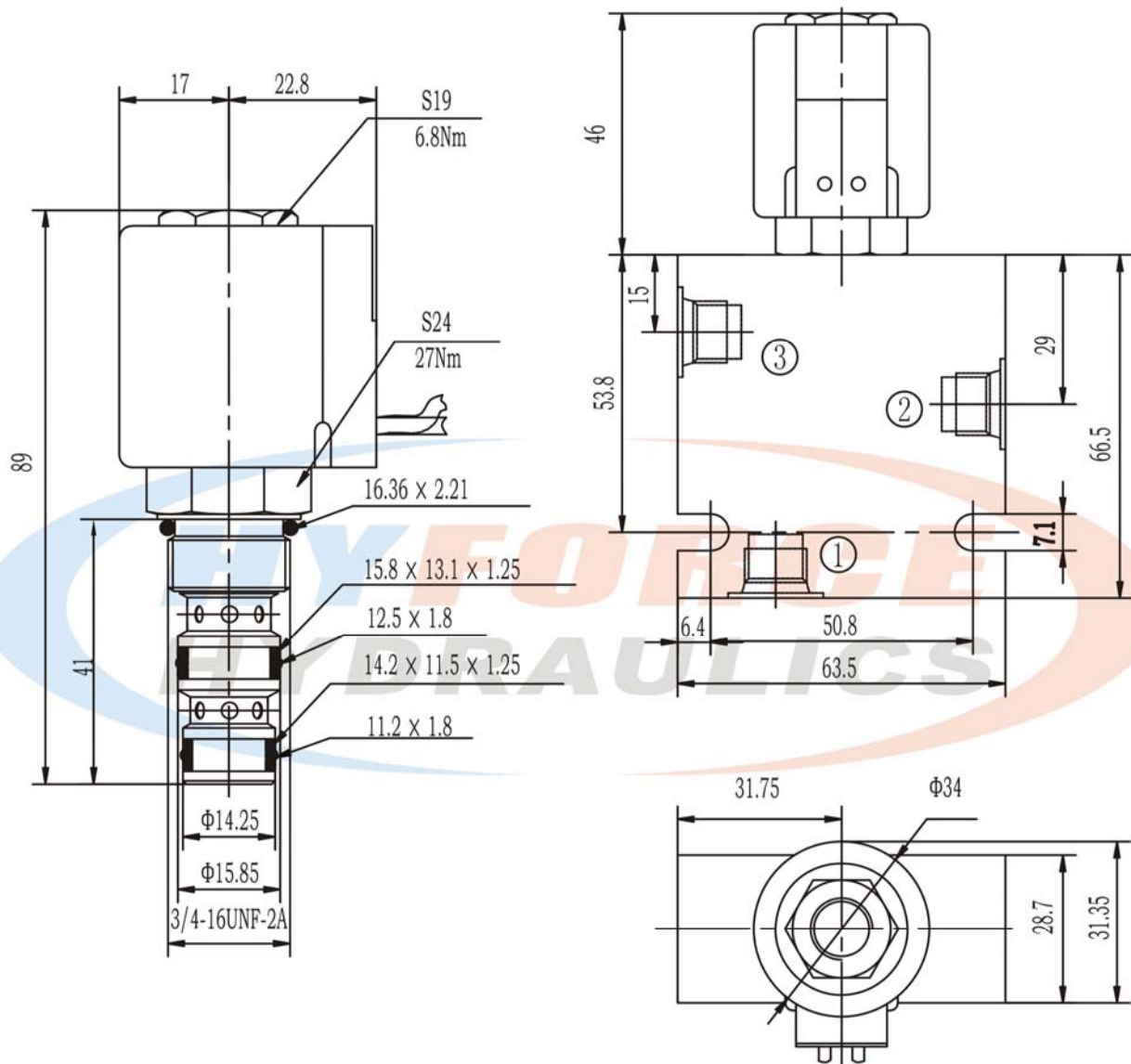


## Solenoid Operated On/Off Valve Series

### SV08-31 series valve dimensions

Unit: mm

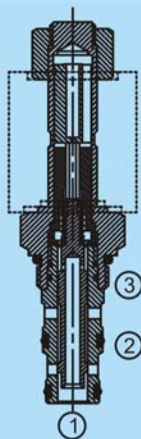
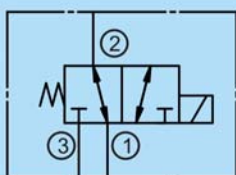
H42



## Solenoid Operated On/Off Valve Series

### SV08-32 Series (3-Way, 2-Position, Spool Type)

#### Symbol

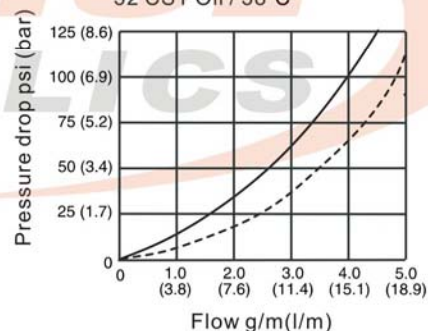


#### Technical data

Model		SV08-32
Max. flow rate (l/min)		19
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	151
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ③ — Energized  
 ② To ① --- De-energized  
 32 CST Oil / 38°C



#### How to order

SV	08	32	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L2

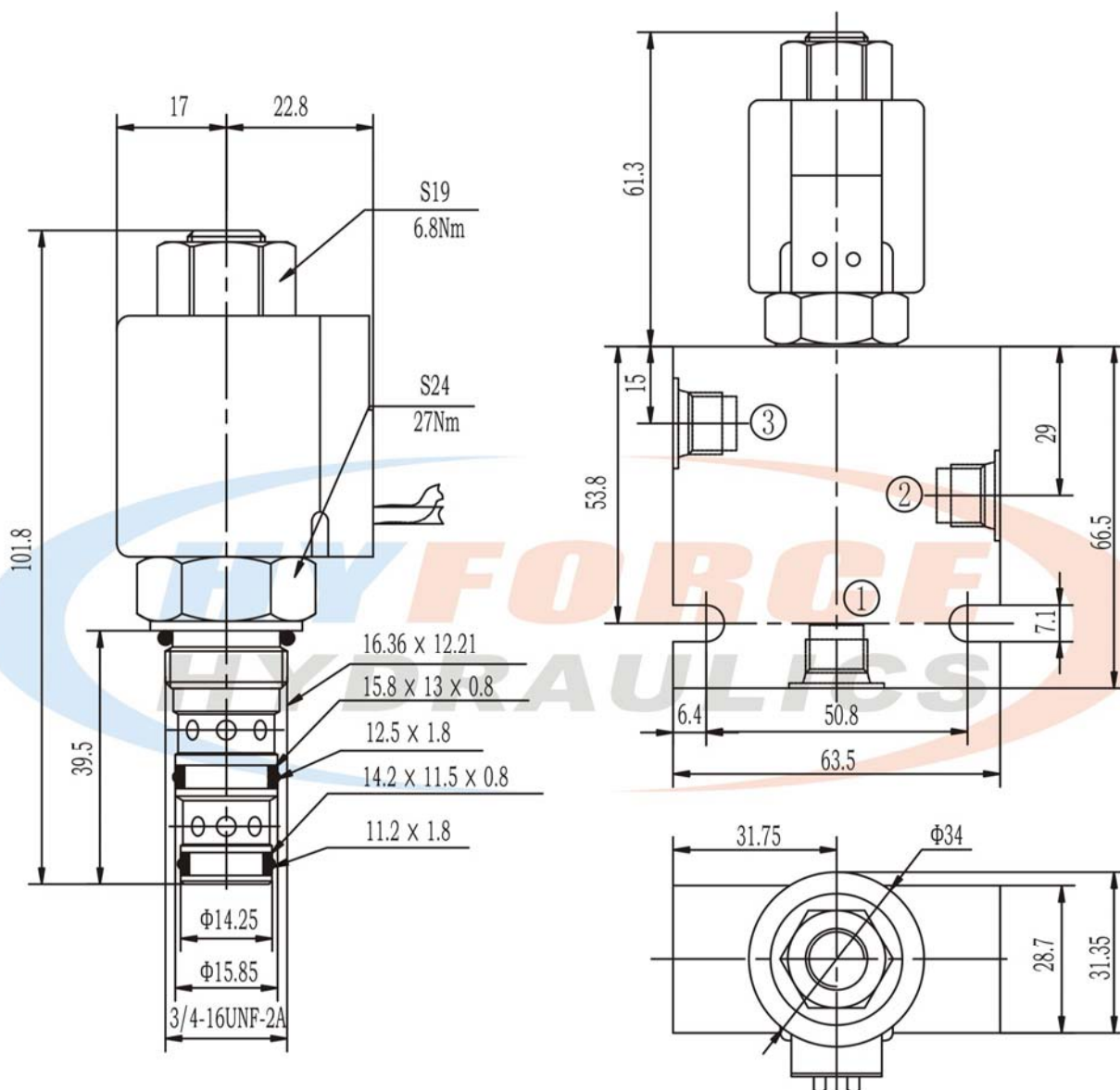


## Solenoid Operated On/Off Valve Series

### SV08-32 series valve dimensions

Unit: mm

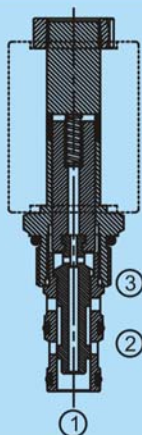
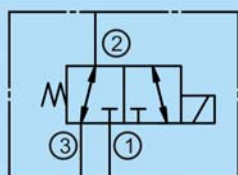
H44



## Solenoid Operated On/Off Valve Series

### SV10-30 Series (3-Way, 2-Position, Spool Type)

#### Symbol

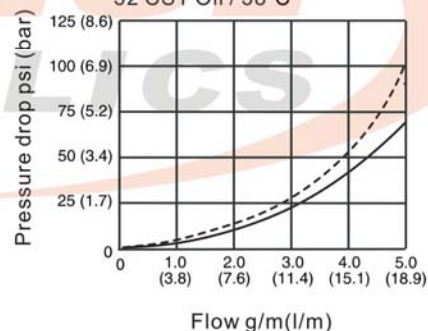


#### Technical data

Model		SV10-30
Max. flow rate (l/min)		19
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	182
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — Energized  
② To ③ --- De-energized  
32 CST Oil / 38°C



#### How to order

SV	10	30	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L5

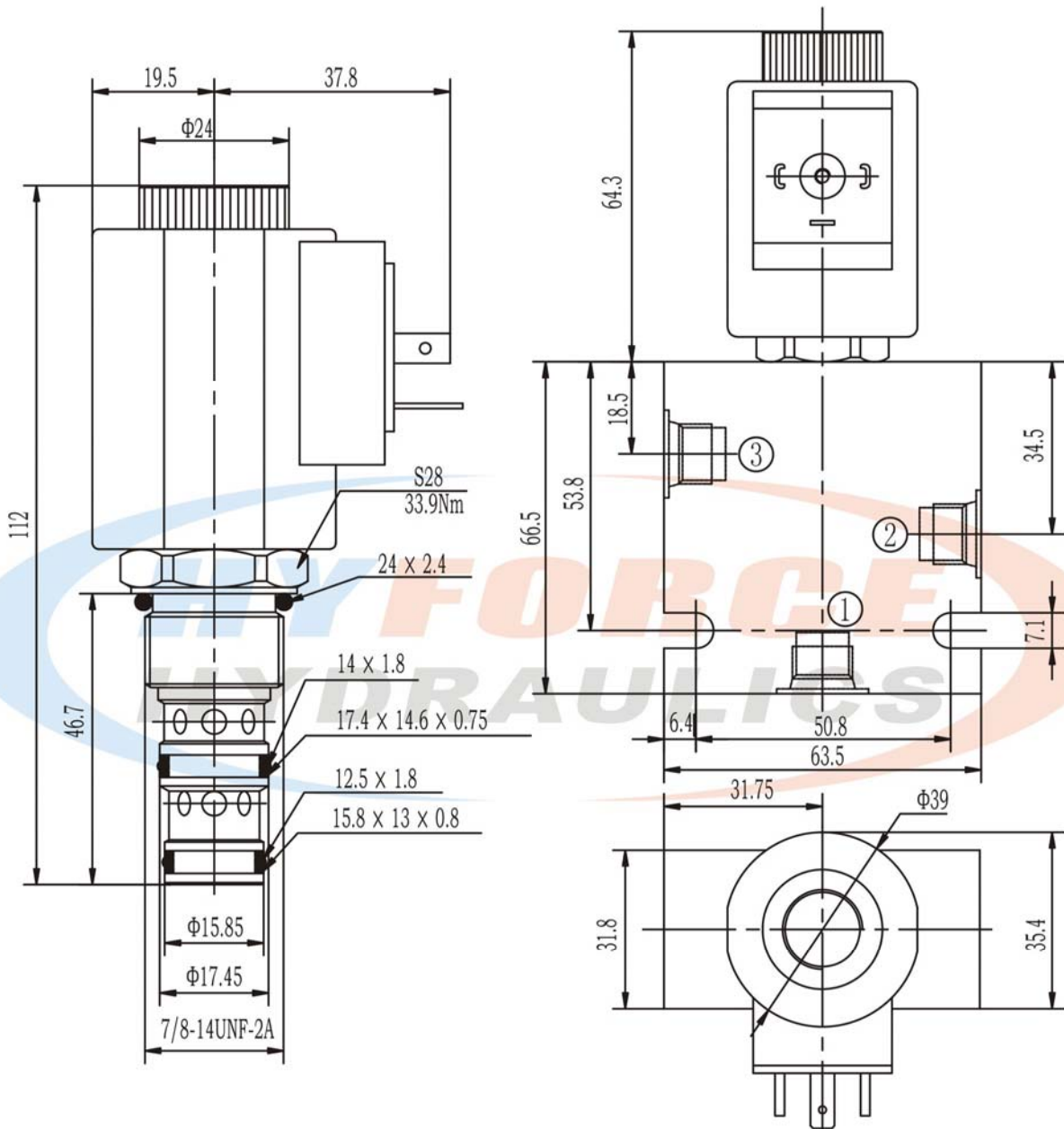


## Solenoid Operated On/Off Valve Series

### SV10-30 series valve dimensions

Unit: mm

H46

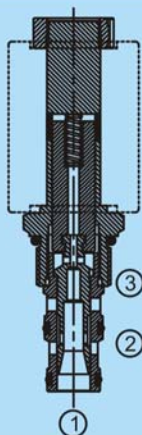
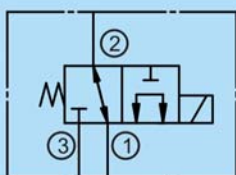




## Solenoid Operated On/Off Valve Series

### SV10-31 Series (3-Way, 2-Position, Spool Type)

#### Symbol

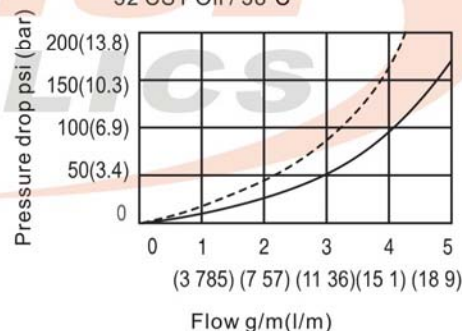


#### Technical data

Model		SV10-31
Max. flow rate (l/min)		19
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	182
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ① — De-energized  
③ To ① --- Energized  
32 CST Oil / 38°C



#### How to order

SV	10	31	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L5

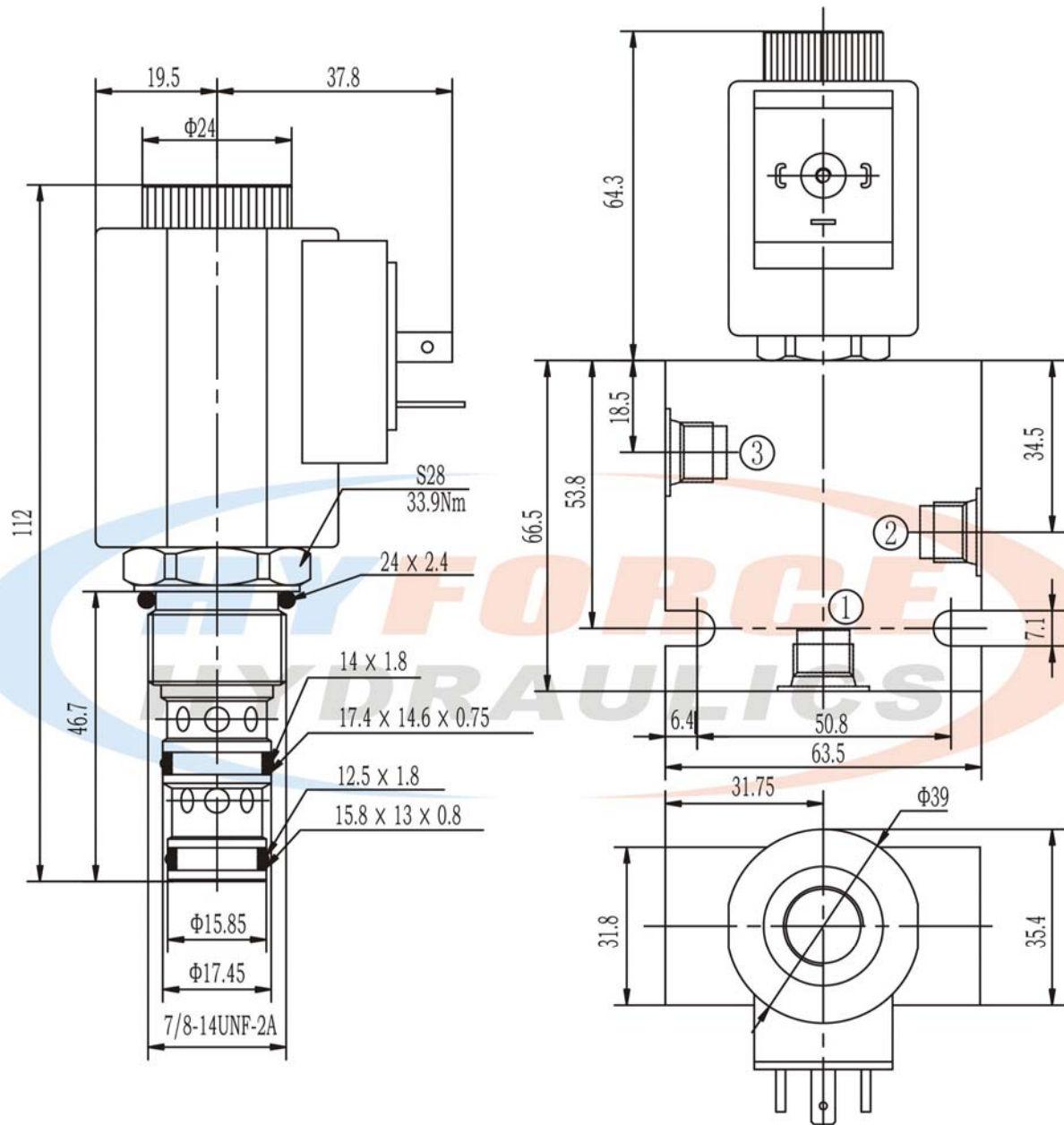


## Solenoid Operated On/Off Valve Series

### SV10-31 series valve dimensions

Unit: mm

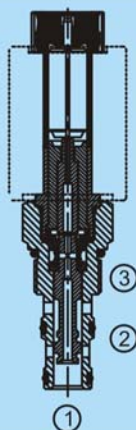
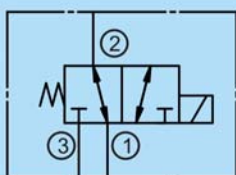
H48



## Solenoid Operated On/Off Valve Series

### SV10-32 Series (3-Way, 2-Position, Spool Type)

#### Symbol

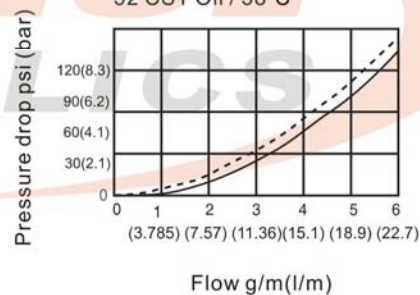


#### Technical data

Model		SV10-32
Max. flow rate (l/min)		23
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	252
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

② To ③ — Energized  
 ② To ① --- De-energized  
 32 CST Oil / 38°C



#### How to order

SV	10	32	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-3	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L5



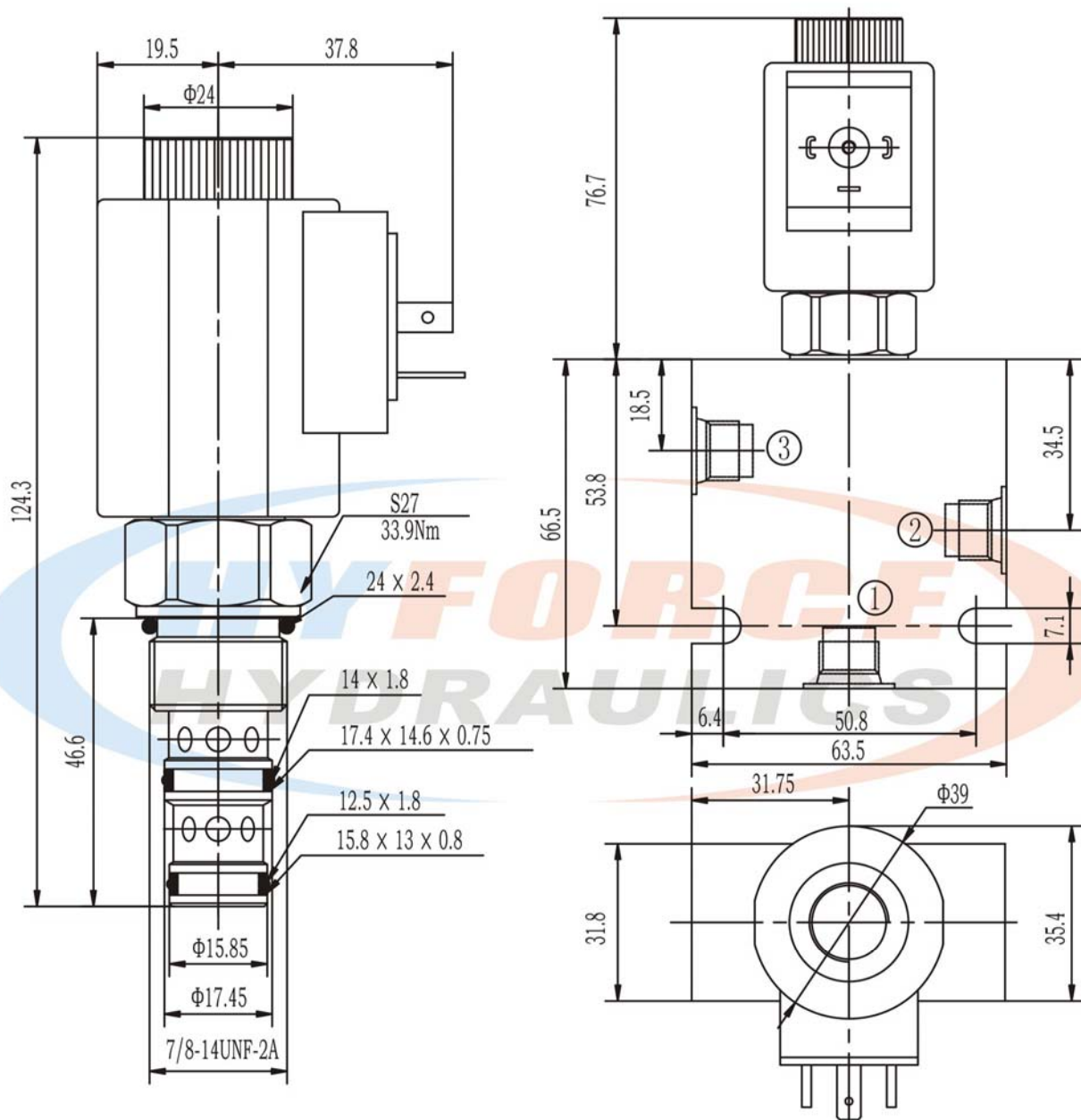


## Solenoid Operated On/Off Valve Series

### SV10-32 series valve dimensions

Unit: mm

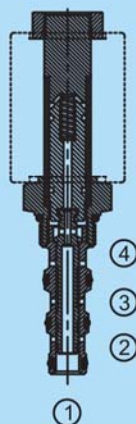
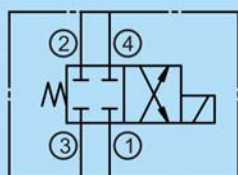
H50



## Solenoid Operated On/Off Valve Series

### SV08-40 Series (4-Way, 2-Position, Spool Type)

#### Symbol

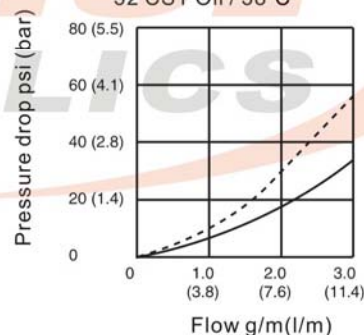


#### Technical data

Model		SV08-40
Max. flow rate (l/min)		11
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	122
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

③ To ④ — Energized  
② To ① --- Energized  
32 CST Oil / 38°C



#### How to order

SV	08	40	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-4	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L3

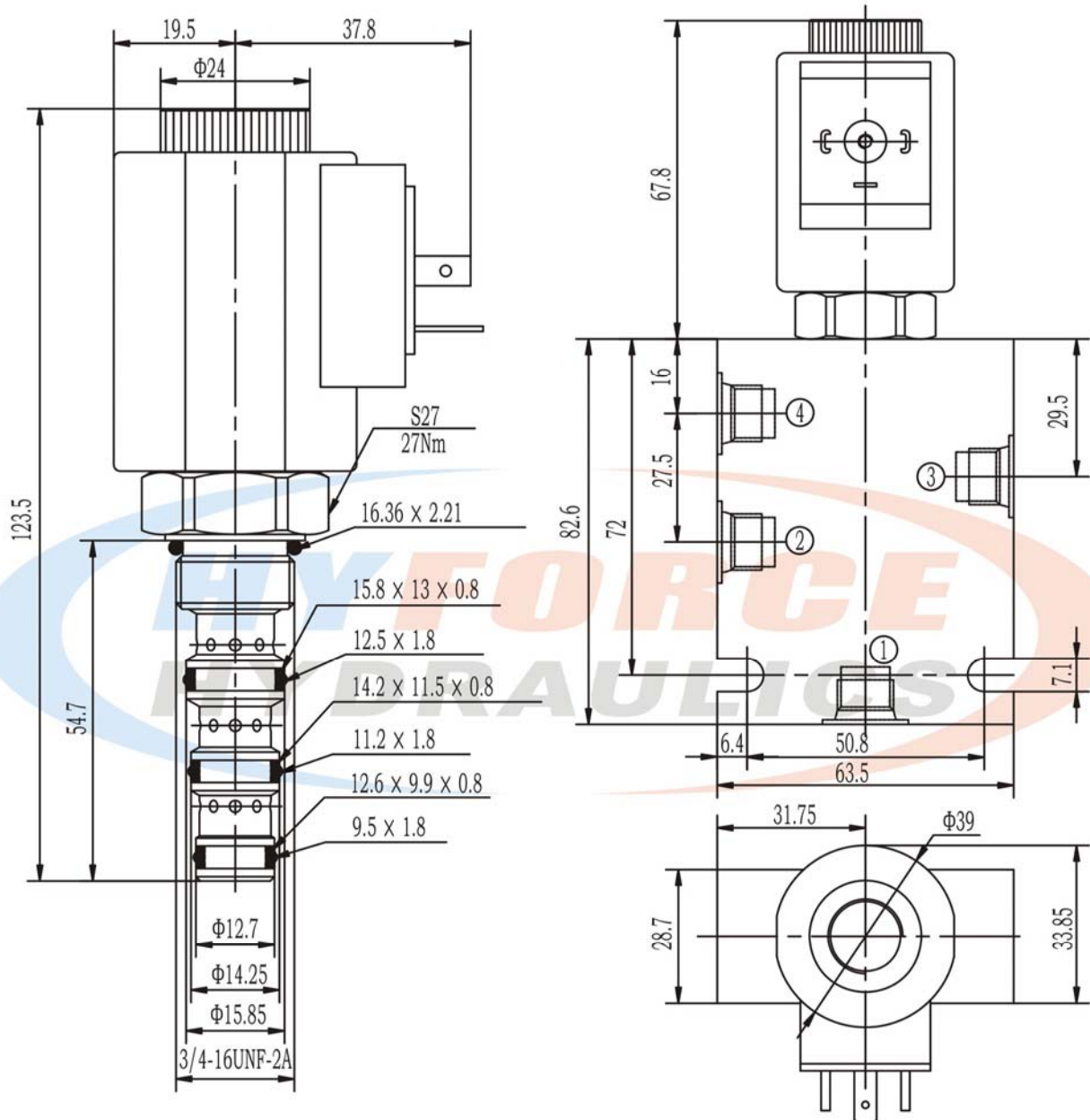


## Solenoid Operated On/Off Valve Series

### SV08-40 series valve dimensions

Unit: mm

H52

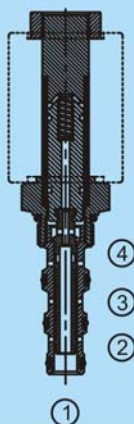
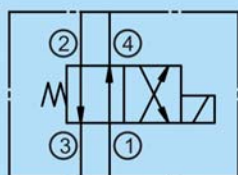




## Solenoid Operated On/Off Valve Series

### SV08-41 Series (4-Way, 2-Position, Spool Type)

#### Symbol



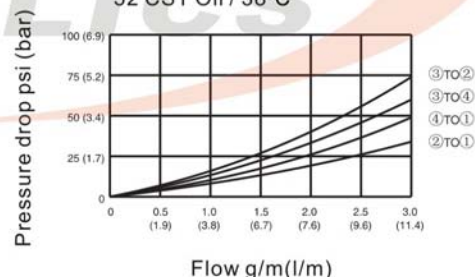
#### Technical data

Model		SV08-41
Max. flow rate (l/min)		11
Internal leakage at 210bar (ml/min)		≤80
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	122
	Coil	153
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

- ③ To ④ Energized
- ② To ① Energized
- ③ To ② De-energized
- ④ To ① De-energized

32 CST Oil / 38°C



#### How to order

SV	08	41	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC08-4	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L3

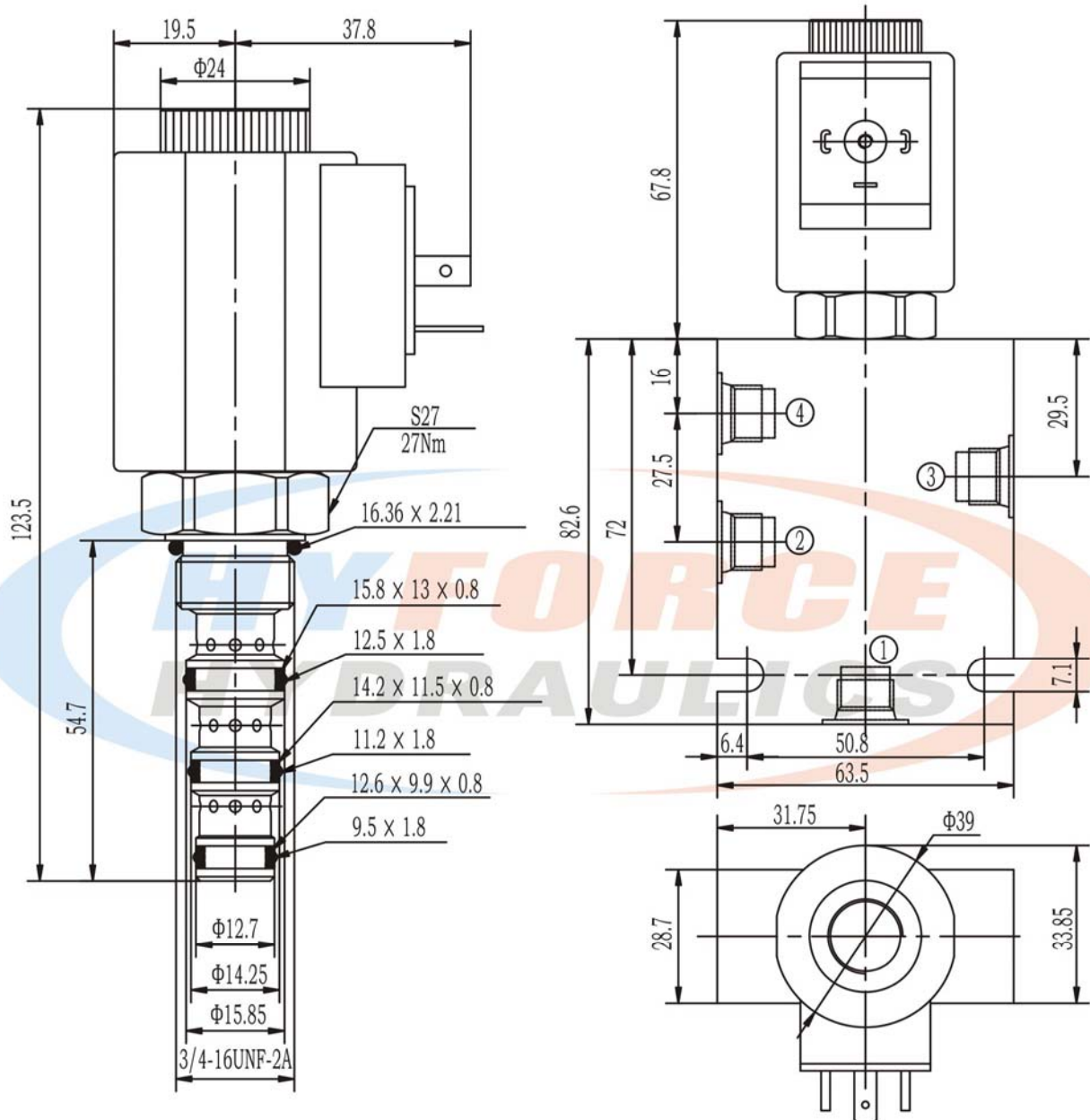


## Solenoid Operated On/Off Valve Series

### SV08-41 series valve dimensions

Unit: mm

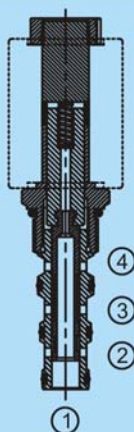
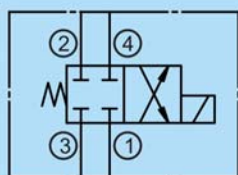
H54



## Solenoid Operated On/Off Valve Series

### SV10-40 Series (4-Way, 2-Position, Spool Type)

#### Symbol

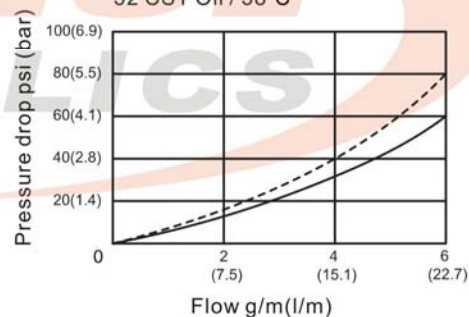


#### Technical data

Model		SV10-40
Max. flow rate (l/min)		22
Internal leakage at 210bar (ml/min)		≤ 120
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	200
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

③ To ④ — Energized  
② To ① --- Energized  
32 CST Oil / 38°C



#### How to order

SV	10	40	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-4	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

Remark: If need standard block, please refer to its catalogue in page L6

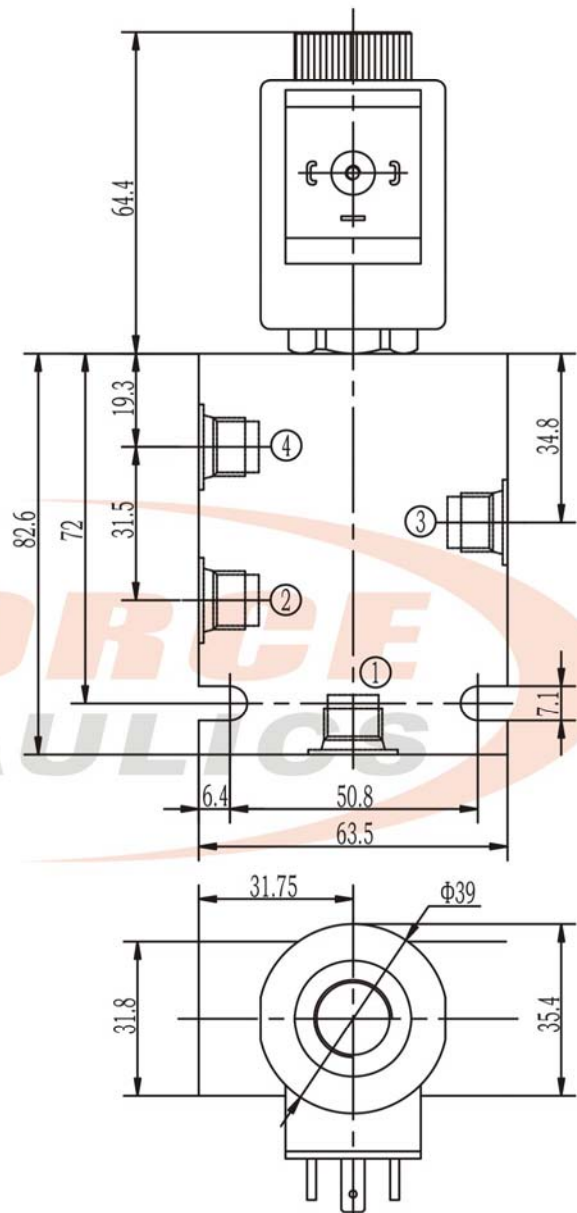
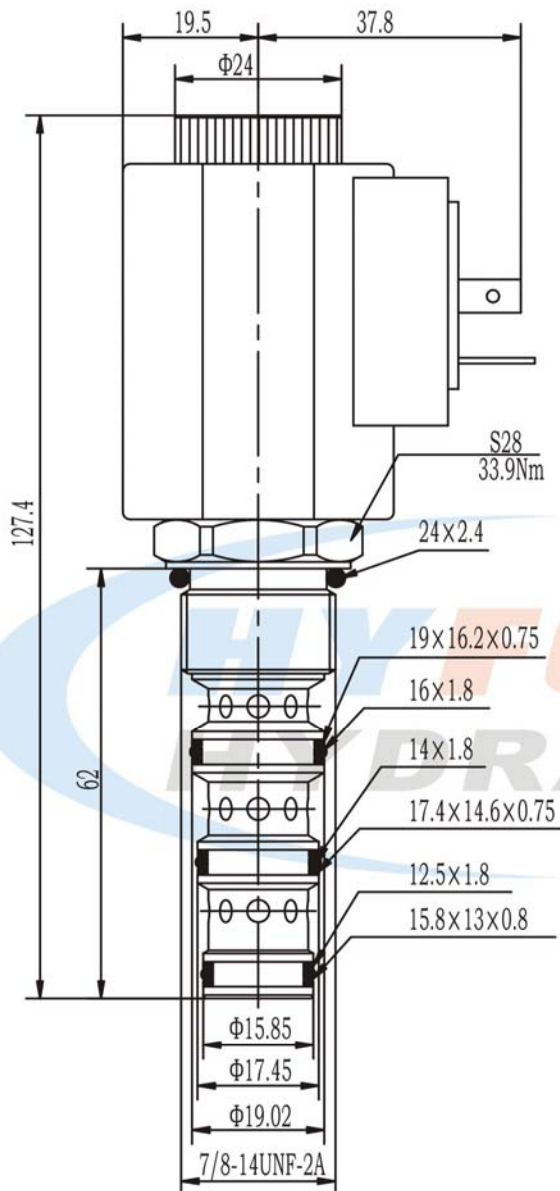


## Solenoid Operated On/Off Valve Series

### SV10-40 series valve dimensions

Unit: mm

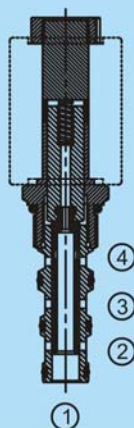
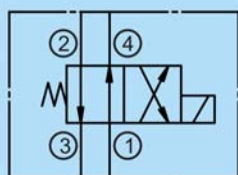
H56



## Solenoid Operated On/Off Valve Series

### SV10-41 Series (4-Way, 2-Position, Spool Type)

#### Symbol



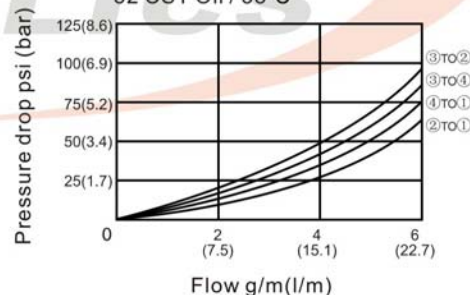
#### Technical data

Model		SV10-41
Max. flow rate (l/min)		22
Internal leakage at 210bar (ml/min)		≤ 120
Max. working pressure (bar)		250
Weight (g)	Cartridge valve	200
	Coil	253
Min. working voltage		90% of rated voltage
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

- ③ To ④ Energized
- ② To ① Energized
- ③ To ② De-energized
- ④ To ① De-energized

32 CST Oil / 38°C



#### How to order

SV	10	41	G24	Z5L
Product type	Cavity	Symbol code	Input voltage	Connector type
Solenoid operated on/off valve	VC10-4	Refer to symbol	No code: Without coil G12: DC12 G24: DC24 W110: AC110 W220: AC220	DL: Double lead Z5L: Plug-in connector with light

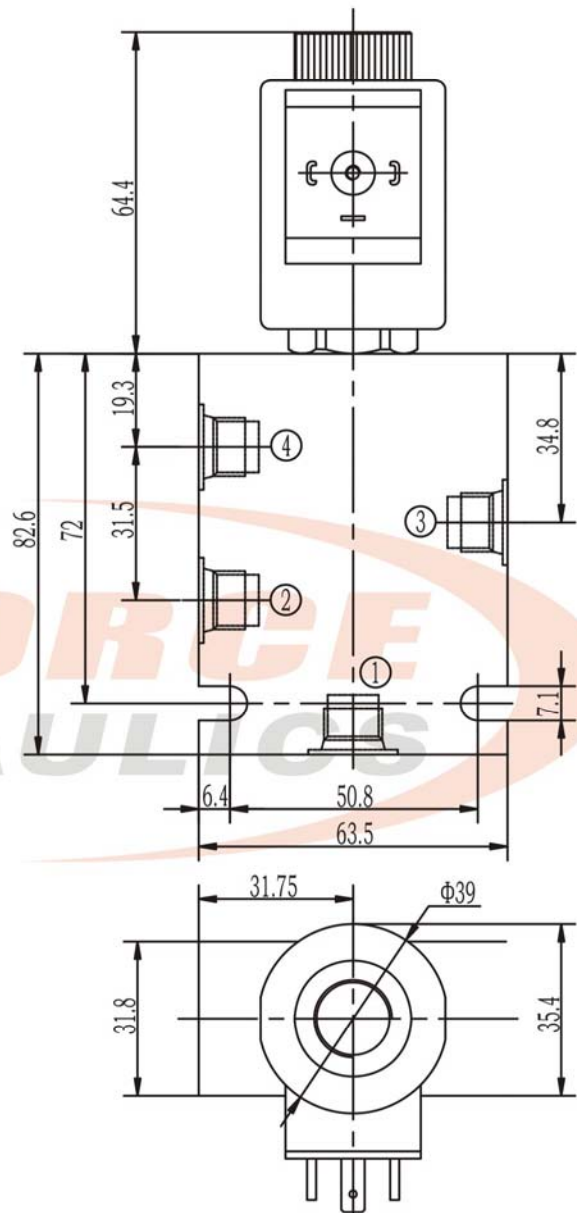
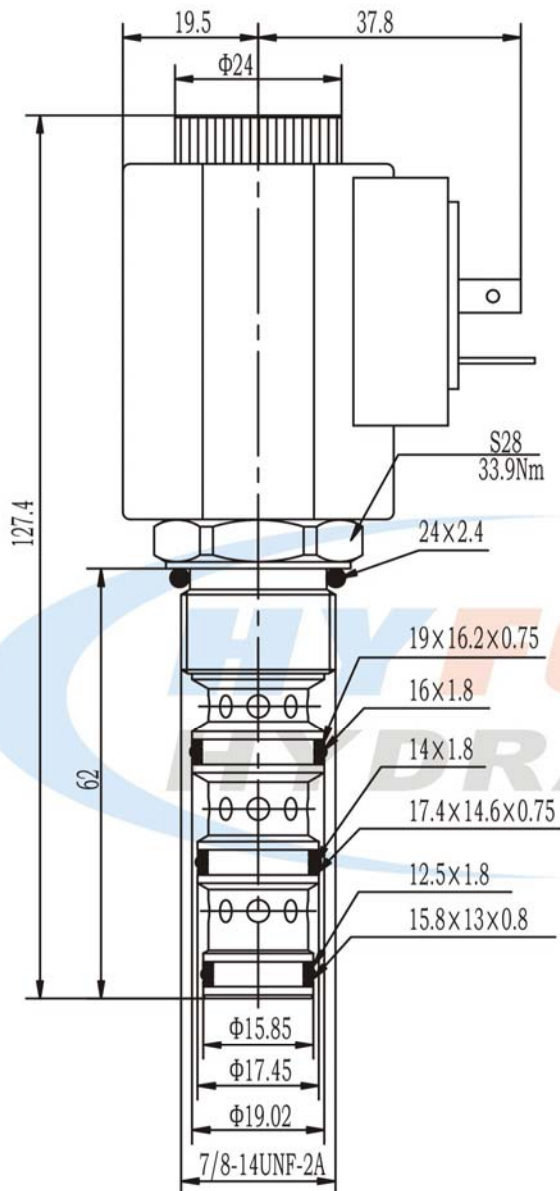
Remark: If need standard block, please refer to its catalogue in page L6

## Solenoid Operated On/Off Valve Series

### SV10-41 series valve dimensions

Unit: mm

H58

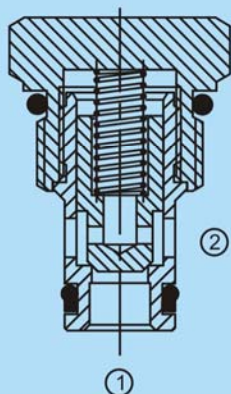
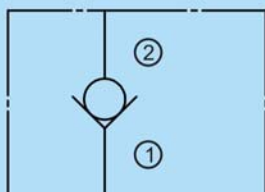




## Directional Control Valve Series

### CV08-P Series Check Valve (Poppet Type)

#### Symbol

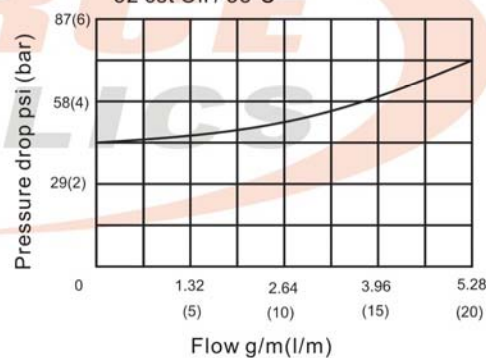


#### Technical data

Model	CV08-P
Max. flow rate (l/min)	20
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	47
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① To ② With 0.5bar spring  
32 cst Oil / 38°C



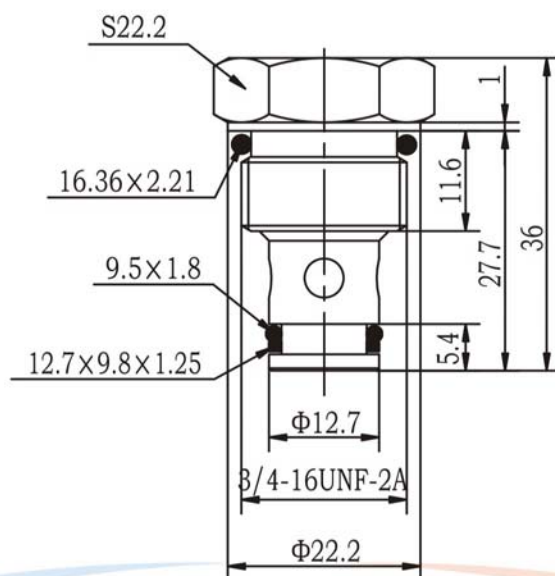
#### How to order

CV	08	P	05
Product type	Cavity	Poppet type	Cracking pressure
Check valve	VC08-2	Poppet type	05: 0.5bar 10: 1bar 20: 2bar

## Directional Control Valve Series

## CV08-P series valve dimensions

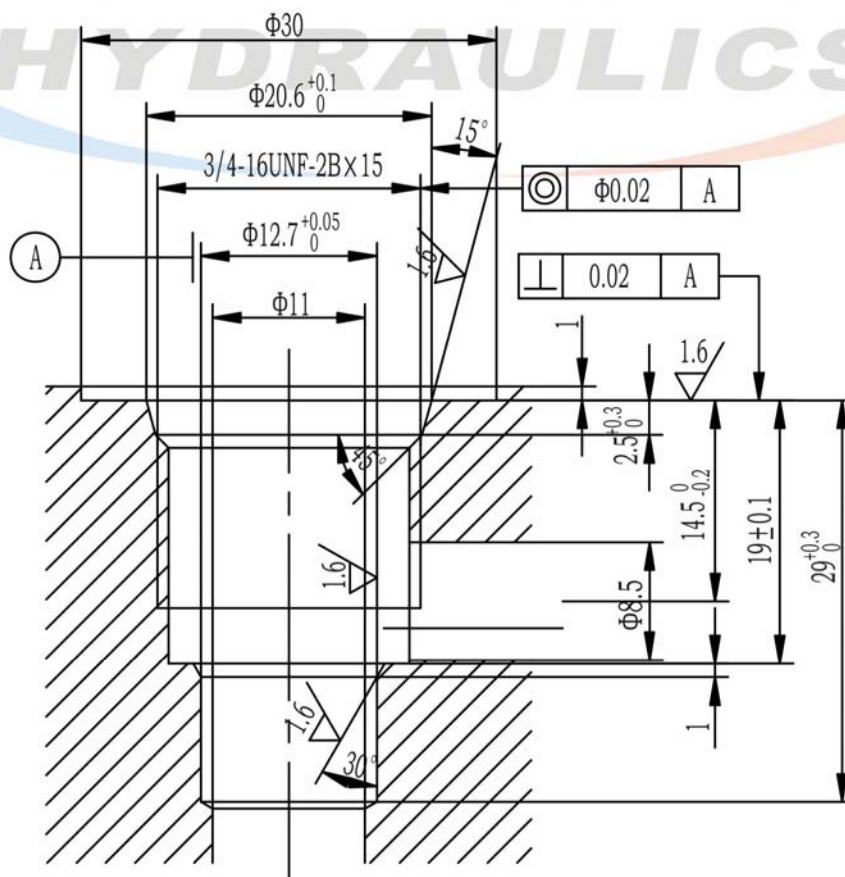
Unit: mm



12

## CV08-P series cavity dimensions

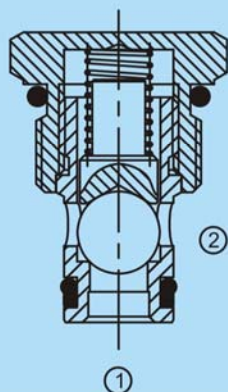
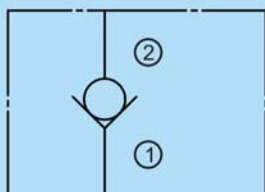
Unit: mm



## Directional Control Valve Series

### CV08-B Series Check Valve (Ball Type)

#### Symbol

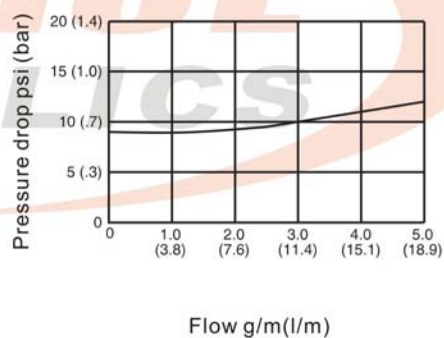


#### Technical data

Model	CV08-B
Max. flow rate (l/min)	19
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	47
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① To ② With 0.5bar spring  
32 cst Oil / 38°C



#### How to order

CV	08	B	05
Product type	Cavity	Ball type	Cracking pressure
Check valve	VC08-2	Ball type	05: 0.5bar

A

B

C

D

E

F

G

H

13

J

K

L

M

N

O

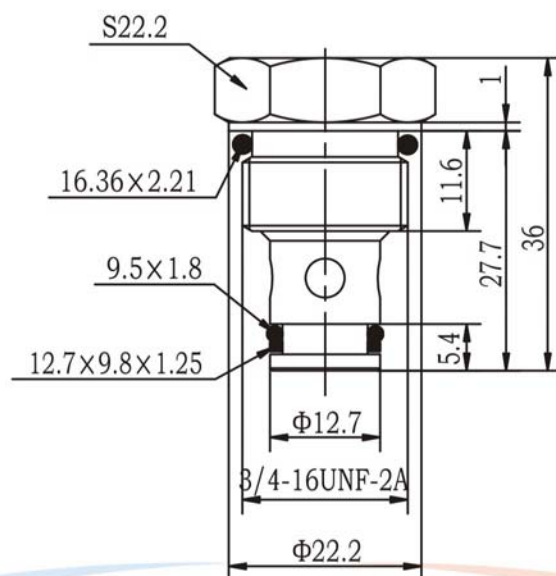
P



## Directional Control Valve Series

## CV08-B series valve dimensions

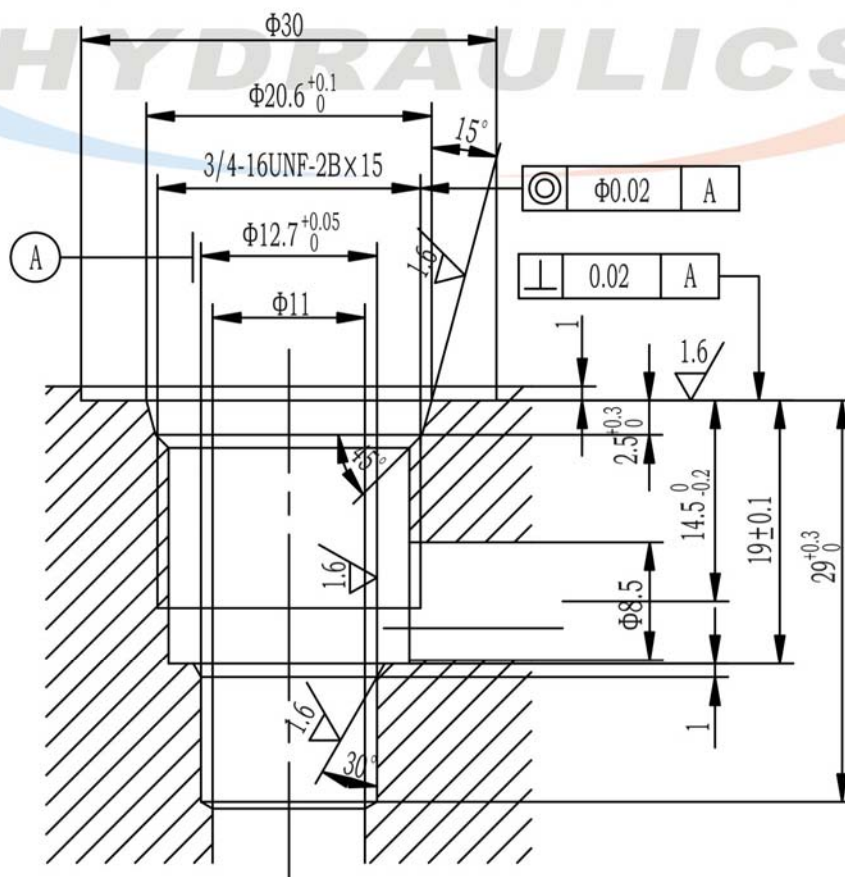
Unit: mm



14

## CV08-B series cavity dimensions

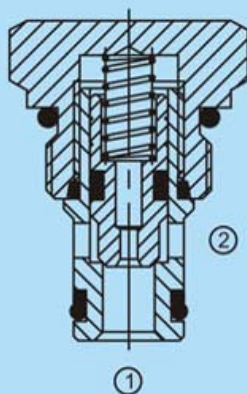
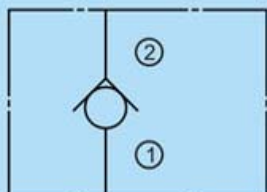
Unit: mm



## Directional Control Valve Series

### CVR08-P Series Check Valve (Poppet Type)

#### Symbol

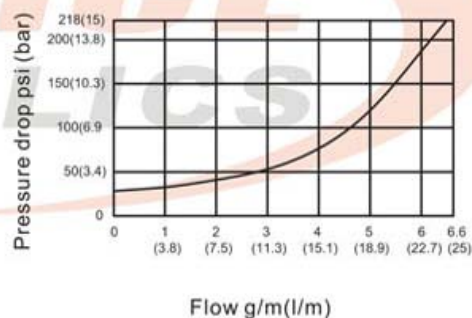


#### Technical data

Model	CVR08-P
Max. flow rate (l/min)	25
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	47
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ① With 0.5bar spring  
32 cst Oil / 38°C



#### How to order

CV	R	08	P	05
Product type	Flow direction	Cavity	Poppet type	Cracking pressure
Check valve	Reverse flow	VC08-2	Poppet type	05: 0.5bar 10: 1bar 20: 2bar

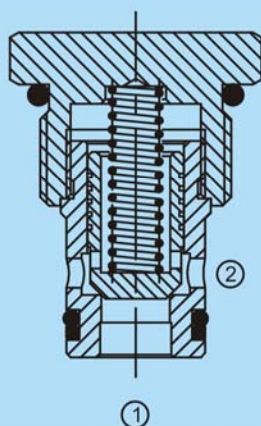
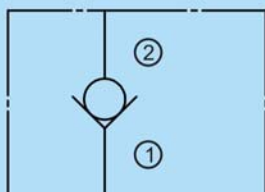




## Directional Control Valve Series

### CV10-P Series Check Valve (Poppet Type)

#### Symbol



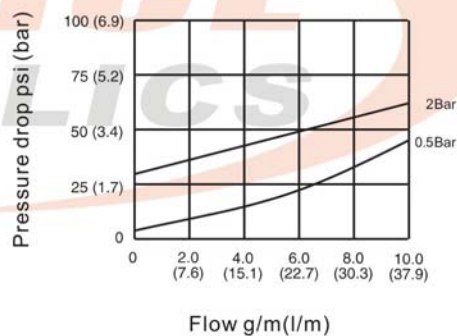
#### Technical data

Model	CV10-P
Max. flow rate (l/min)	38
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	91
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① To ②

32 cst Oil / 38°C



#### How to order

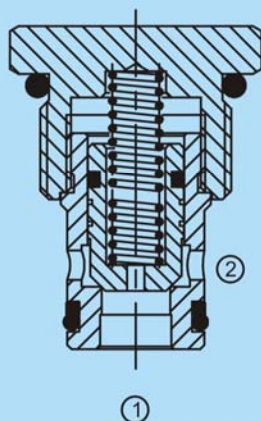
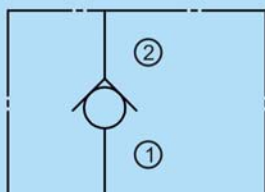
CV	10	P	05
Product type	Cavity	Poppet type	Cracking pressure
Check valve	VC10-2	Poppet type	05: 0.5bar 20: 2bar



## Directional Control Valve Series

### CVR10-P Series Check Valve (Poppet Type)

#### Symbol

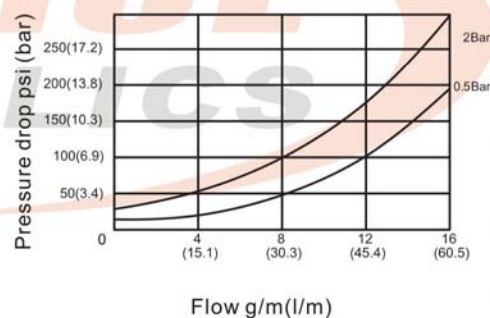


#### Technical data

Model	CVR10-P
Max. flow rate (l/min)	60
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	91
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ①  
32 cst Oil / 38°C



#### How to order

CV	R	10	P	05
Product type	Flow direction	Cavity	Poppet type	Cracking pressure
Check valve	Reverse flow	VC10-2	Poppet type	05: 0.5bar 20: 2bar

A

B

C

D

E

F

G

H

19

J

K

L

M

N

O

P

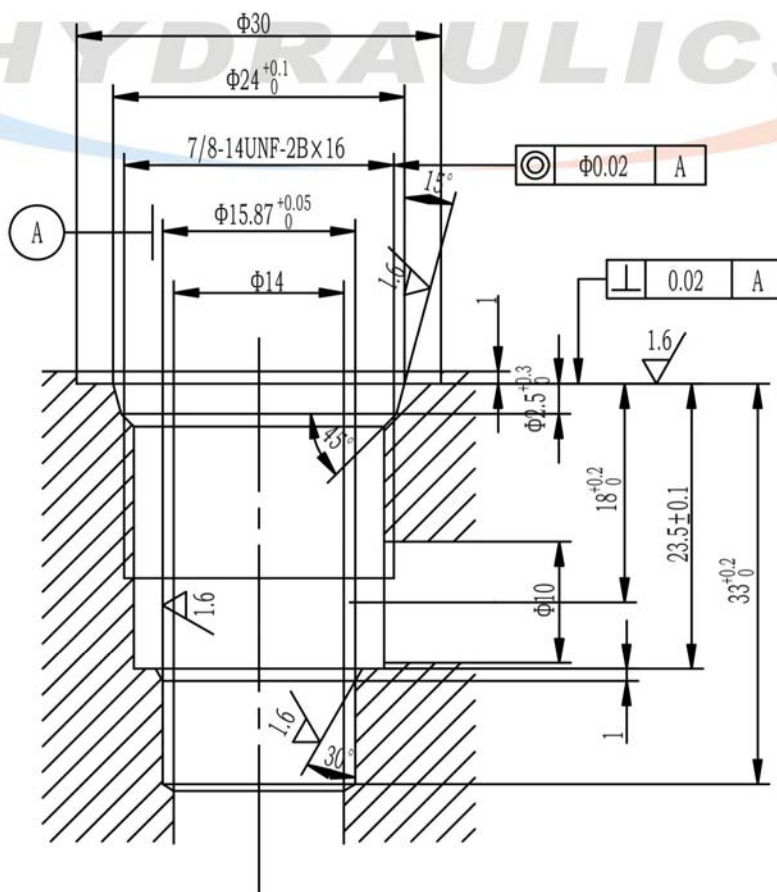




## Unit: mm



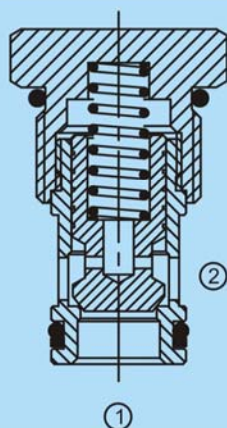
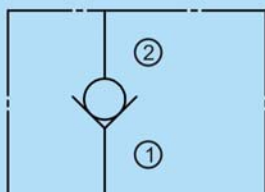
## Unit: mm



## Directional Control Valve Series

### CV12-P Series Check Valve (Poppet Type)

#### Symbol



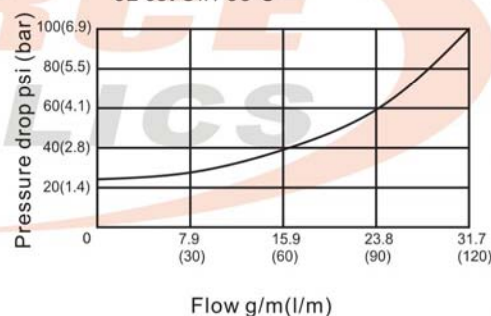
#### Technical data

Model	CV12-P
Max. flow rate (l/min)	120
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	173
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① To ②

32 cst Oil / 38°C



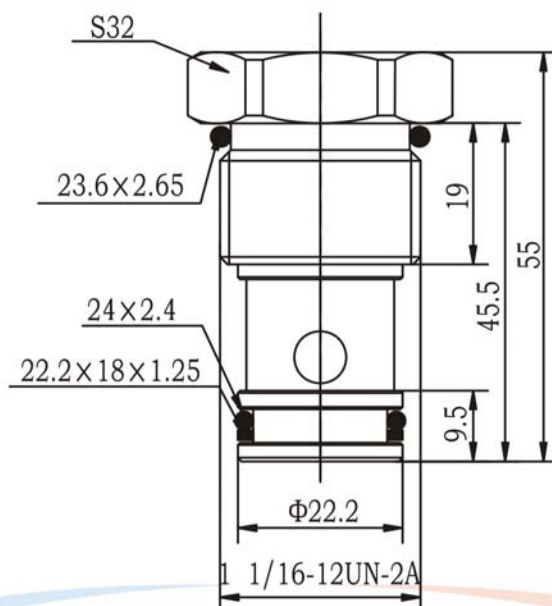
#### How to order

CV	12	P	10
Product type	Cavity	Poppet type	Cracking pressure
Check valve	VC12-2	Poppet type	10: 1bar

## Directional Control Valve Series

### CV12-P series valve dimensions

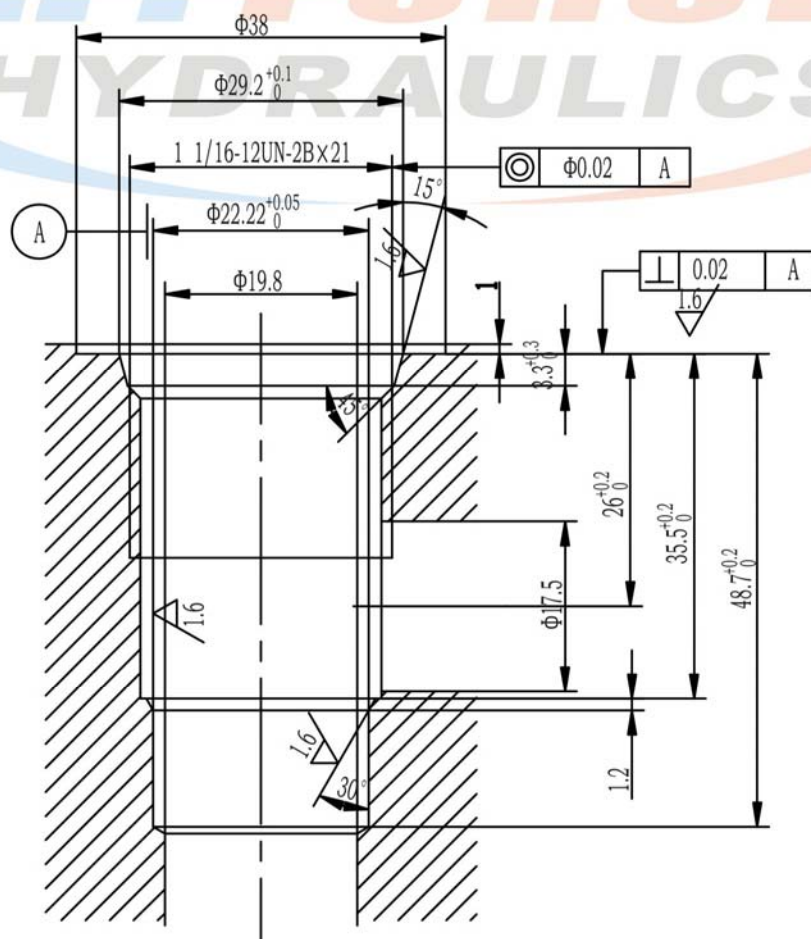
Unit: mm



I12

### CV12-P series cavity dimensions

Unit: mm

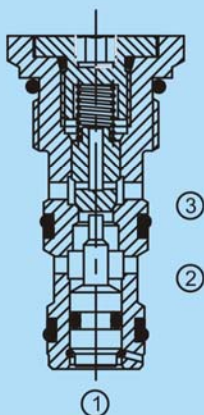
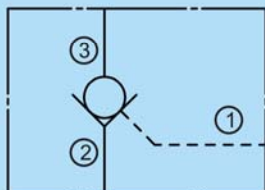




## Directional Control Valve Series

### PCV04M-P Series Pilot Operated Check Valve (Poppet Type)

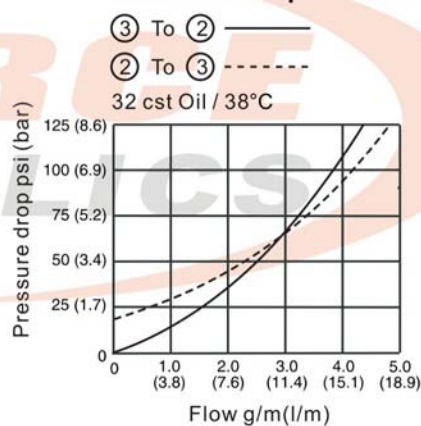
#### Symbol



#### Technical data

Model	PCV04M-P
Max. flow rate (l/min)	18
③ to ② Internal leakage at 210bar (ml/min)	≤0.3
② to ① with sealed piston	Zero leakage
Pilot ratio	2.2:1
Max. working pressure (bar)	250
Weight (g)	59
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow



#### How to order

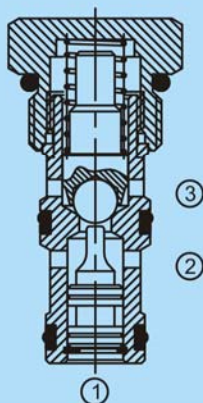
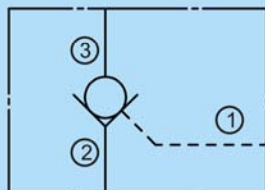
PCV	04M	P	20
Product type	Cavity	Poppet type	Cracking pressure
Pilot operated check valve	VC04M-3	Poppet type	20: 2bar



## Directional Control Valve Series

### PCV08-B Series Pilot Operated Check Valve (Ball Type)

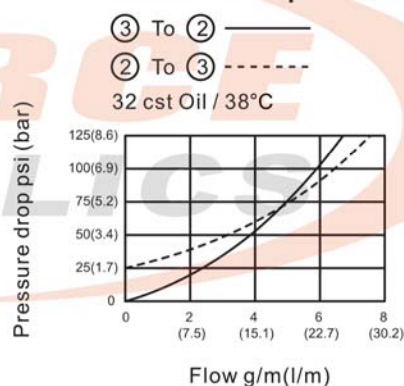
#### Symbol



#### Technical data

Model	PCV08-B
Max. flow rate (l/min)	25
③ to ② Internal leakage at 210bar (ml/min)	≤0.3
② to ① with sealed piston	Zero leakage
Pilot ratio	3:1
Max. working pressure (bar)	250
Weight (g)	65
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow



#### How to order

PCV	08	B	20
Product type	Cavity	Ball type	Cracking pressure
Pilot operated check valve	VC08-3	Ball type	20: 2bar

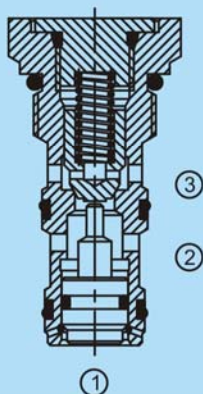
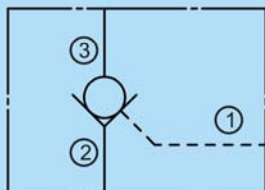




## Directional Control Valve Series

### PCV10M-P Series Pilot Operated Check Valve (Poppet Type)

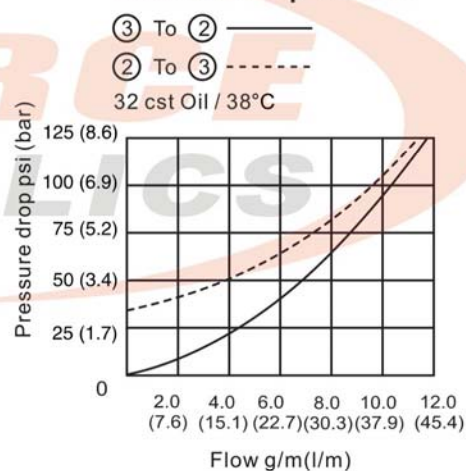
#### Symbol



#### Technical data

Model	PCV10M-P
Max. flow rate (l/min)	45
③ to ② Internal leakage at 210bar (ml/min)	≤ 0.3
② to ① with sealed piston	Zero leakage
Pilot ratio	2.8:1
Max. working pressure (bar)	250
Weight (g)	118
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow



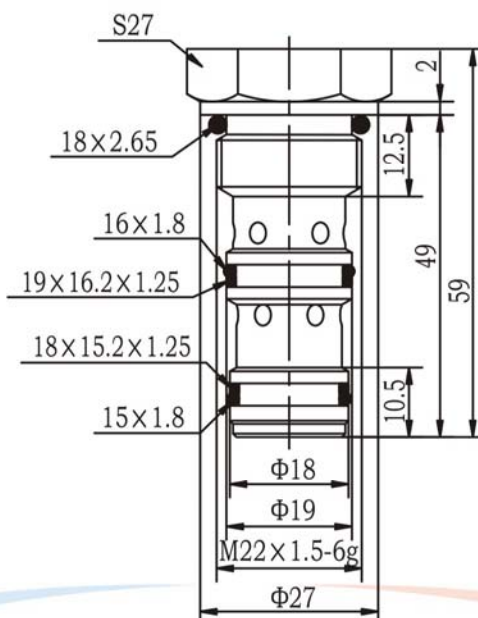
#### How to order

PCV	10M	P	20
Product type	Cavity	Poppet type	Cracking pressure
Pilot operated check valve	VC10M-3	Poppet type	20: 2bar

## Directional Control Valve Series

### PCV10M-P series valve dimensions

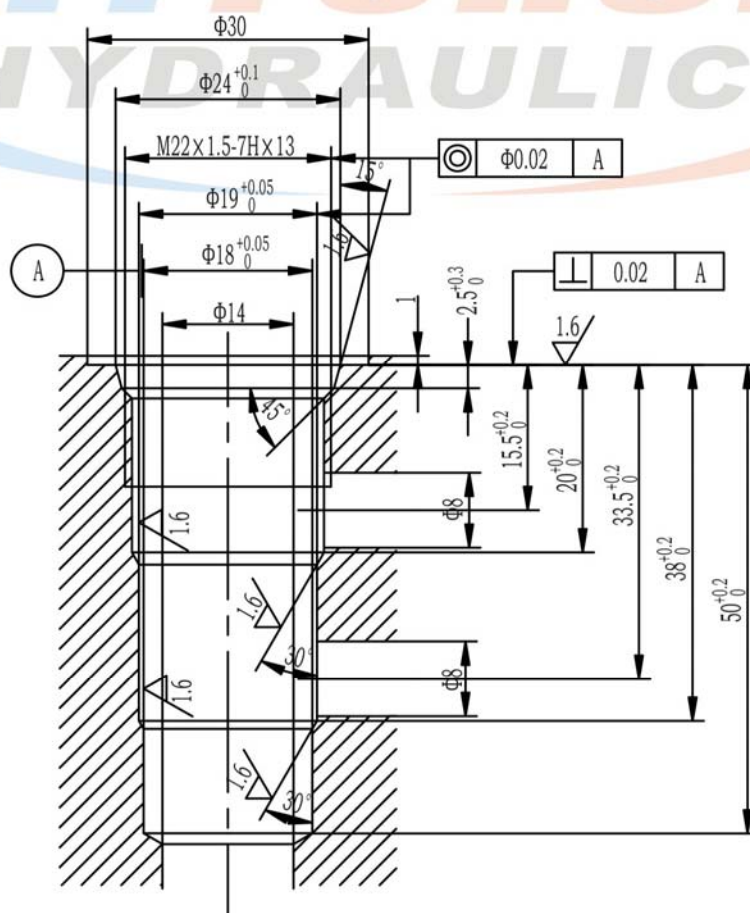
Unit: mm



I18

### PCV10M-P series cavity dimensions

Unit: mm

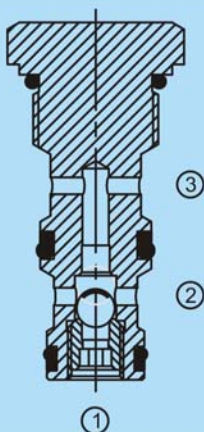
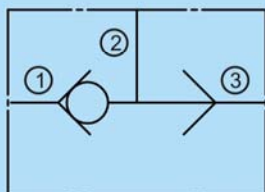




## Directional Control Valve Series

### SLV06M-B Series Shuttle Valve (Ball Type)

#### Symbol



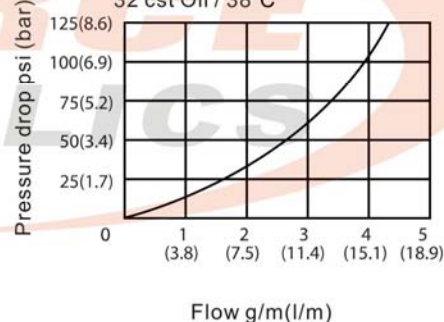
#### Technical data

Model	SLV06M-B
Max. flow rate (l/min)	16
Internal leakage at 210bar (ml/min)	≤ 0.3
Max. working pressure (bar)	250
Weight (g)	62
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① Or ③ To ②

32 cst Oil / 38°C



#### How to order

SLV	06M	B
Product type	Cavity	Ball type
Shuttle valve	VC06M-3	Ball type

A

B

C

D

E

F

G

H

I19

J

K

L

M

N

O

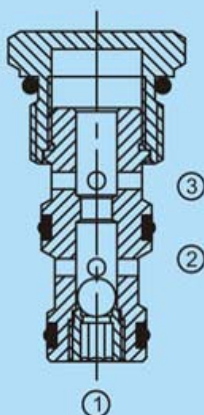
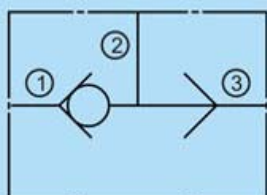
P



## Directional Control Valve Series

### SLV08-B Series Shuttle Valve (Ball Type)

#### Symbol



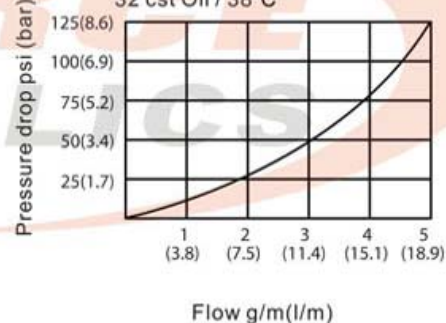
#### Technical data

Model	SLV08-B
Max. flow rate (l/min)	18
Internal leakage at 210bar (ml/min)	≤ 0.3
Max. working pressure (bar)	250
Weight (g)	60
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

① Or ③ To ② ———

32 cst Oil / 38°C



#### How to order

SLV	08	B
Product type	Cavity	Ball type
Shuttle valve	VC08-3	Ball type

A

B

C

D

E

F

G

H

I21

J

K

L

M

N

O

P

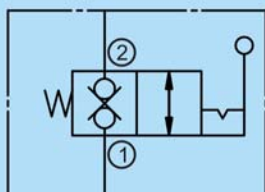




## Directional Control Valve Series

### MV08-27 Series Manual Operated Directional Control Valve

#### Symbol

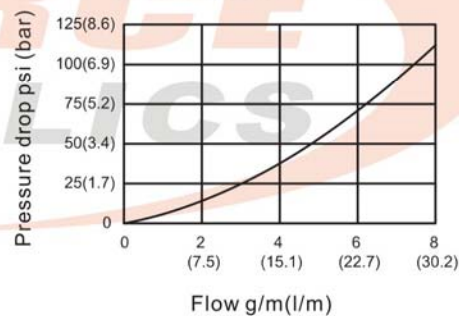


#### Technical data

Model	MV08-27
Max. flow rate (l/min)	30
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	416
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ① ———  
32 cst Oil / 38°C



#### How to order

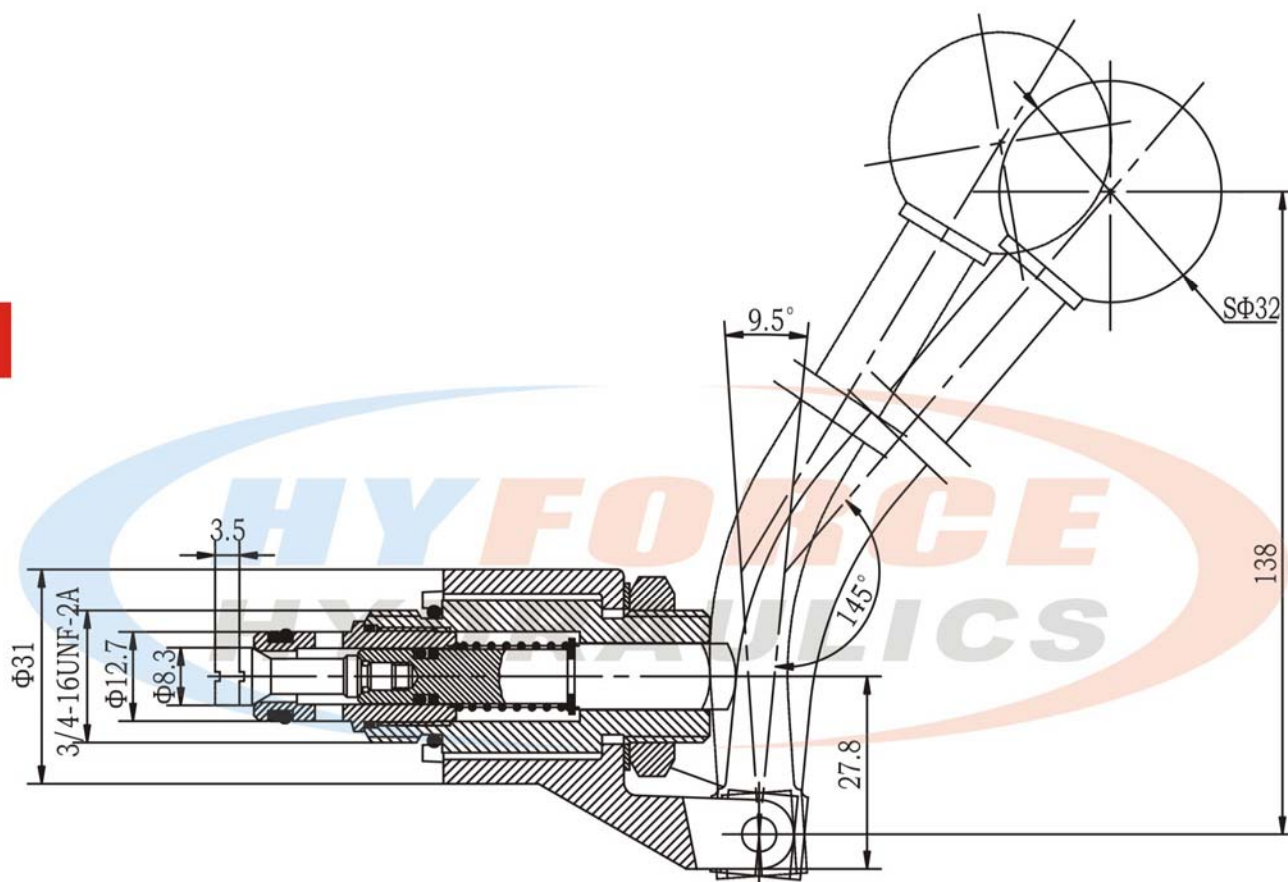
MV	08	27
Product type	Cavity	Symbol code
Manual operated directional control valve	VC08-2	Refer to symbol

## Directional Control Valve Series

### MV08-27 series valve dimensions

Unit: mm

I24

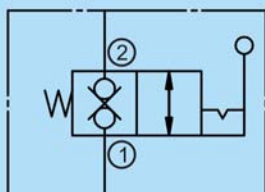




## Directional Control Valve Series

### MV08-27-E Series Manual Operated Directional Control Valve

#### Symbol

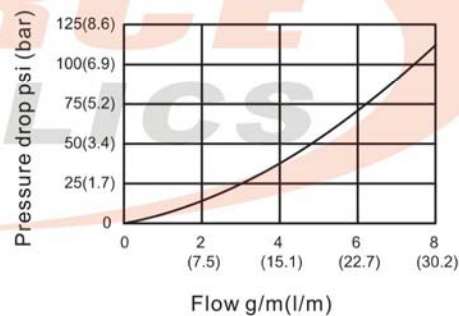


#### Technical data

Model	MV08-27-E
Max. flow rate (l/min)	30
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	768
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ① ———  
32 cst Oil / 38°C



#### How to order

MV	08	27	E
Product type	Cavity	Symbol code	With electronic switch
Manual operated directional control valve	VC08-2	Refer to symbol	With electronic switch

A

B

C

D

E

F

G

H

I25

J

K

L

M

N

O

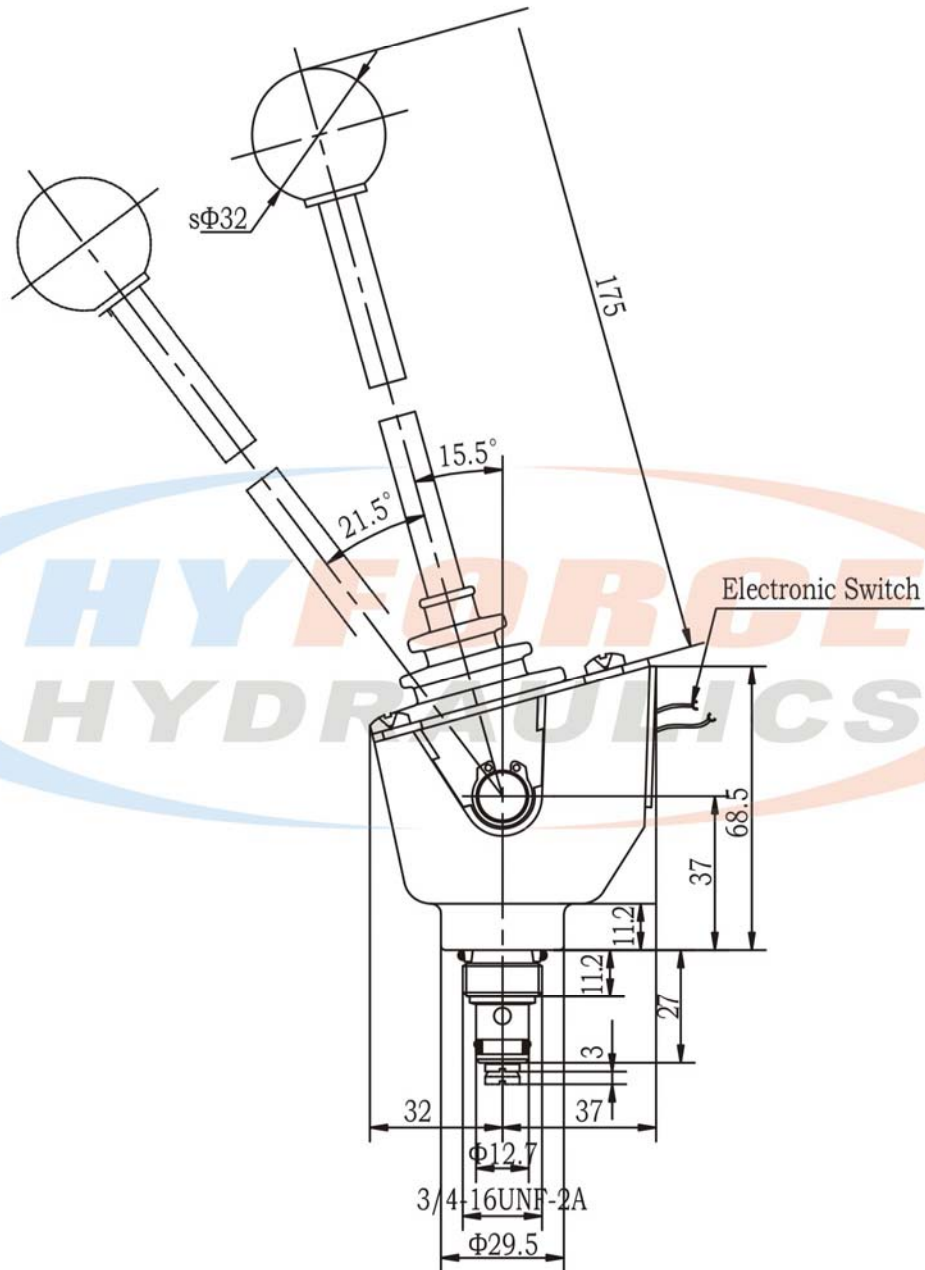
P

## Directional Control Valve Series

### MV08-27-E series valve dimensions

Unit: mm

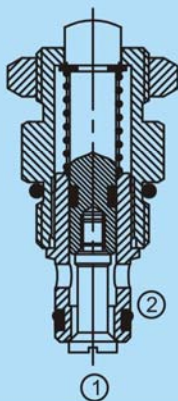
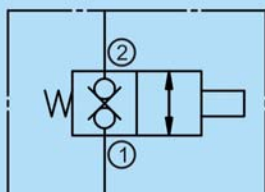
I26



## Directional Control Valve Series

### MEV08-27 Series Mechanical Operated Directional Control Valve

#### Symbol

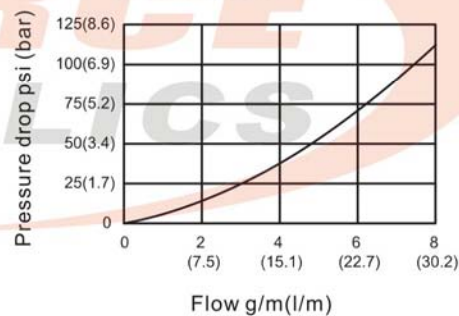


#### Technical data

Model	MEV08-27
Max. flow rate (l/min)	30
Internal leakage at 210bar (ml/min)	≤0.3
Max. working pressure (bar)	250
Weight (g)	98
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ① ———  
32 cst Oil / 38°C



#### How to order

MEV	08	27
Product type	Cavity	Symbol code
Mechanical operated directional control valve	VC08-2	Refer to symbol

A

B

C

D

E

F

G

H

I27

J

K

L

M

N

O

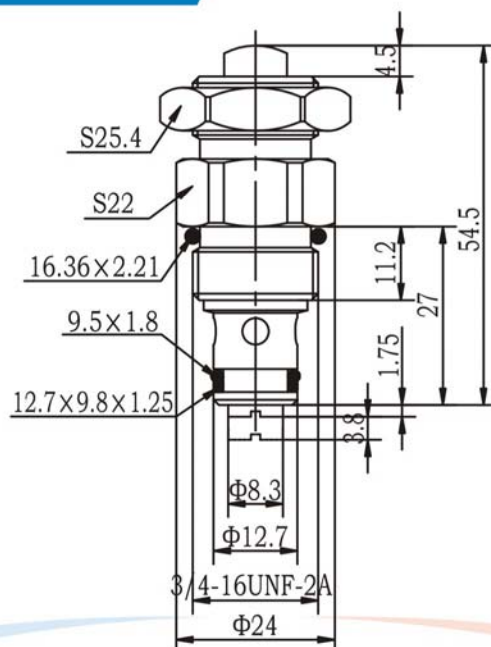
P



## Directional Control Valve Series

## MEV08-27 series valve dimensions

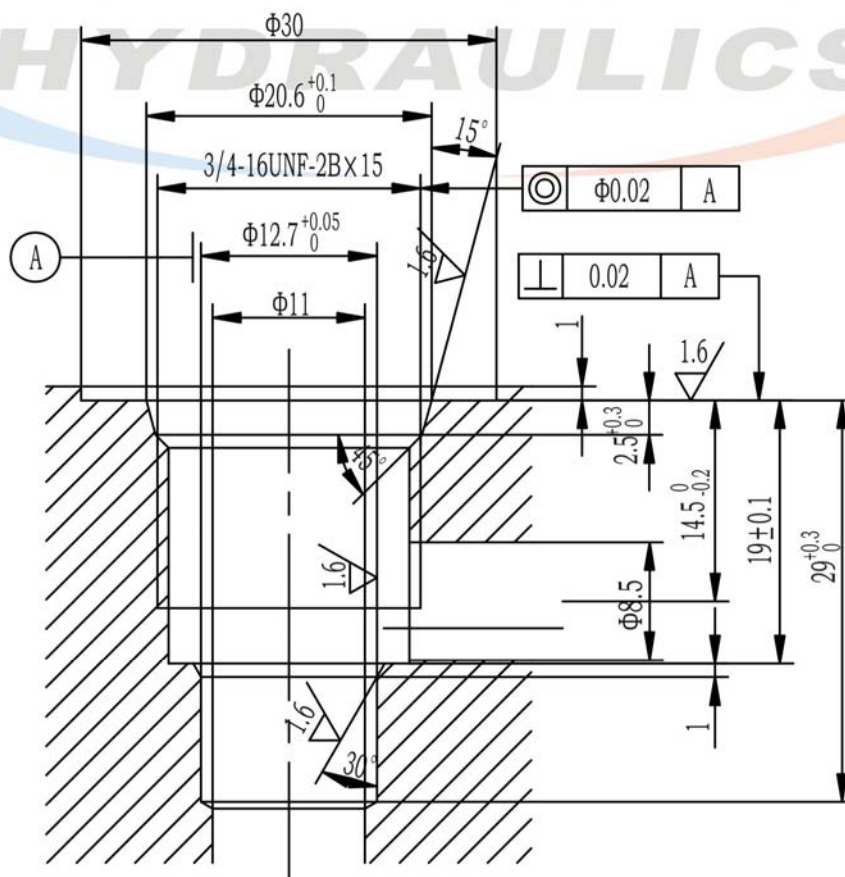
Unit: mm



128

## MEV08-27 series cavity dimensions

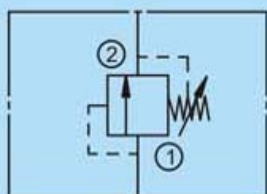
Unit: mm



## Pressure Control Valve Series

### DRV08-11 Series Direct Operated Relief Valve

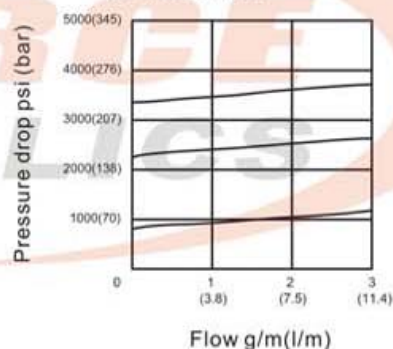
#### Symbol



#### Technical data

Model		DRV08-11
Max. flow rate (l/min)		11
Internal leakage when closed (ml/min)		≤3
Weight (g)	Grub screw	79
	Metal knob	134
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

Pressure drop VS flow  
32 cst Oil / 38°C



#### How to order

DRV	08	11	B	M
Product type	Cavity	Max. flow rate	Pressure adjustment range	Adjustment type
Direct operated relief valve	VC08-2	11l/m	A: 21~88bar B: 128~248bar C: 210~345bar	No code: Grub screw M: Metal knob

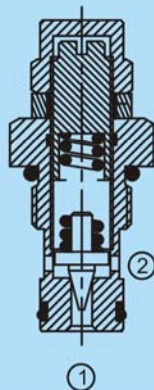
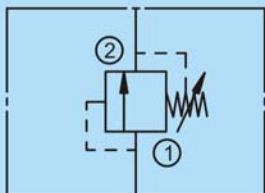




## Pressure Control Valve Series

### DRV08-18 Series Direct Operated Relief Valve

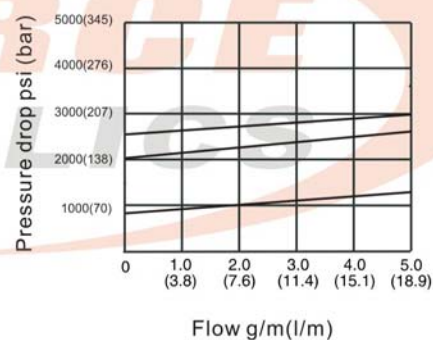
#### Symbol



#### Technical data

Model	DRV08-18
Max. flow rate (l/min)	18
Internal leakage (ml/min)	≤3
Weight (g)	103
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

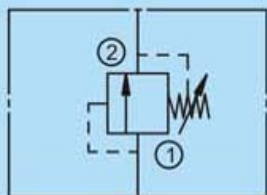
DRV	08	18	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Direct operated relief valve	VC08-2S	18l/m	A: 39~98bar B: 73~171bar C: 123~210bar



## Pressure Control Valve Series

### DRV08-20 Series Direct Operated Relief Valve

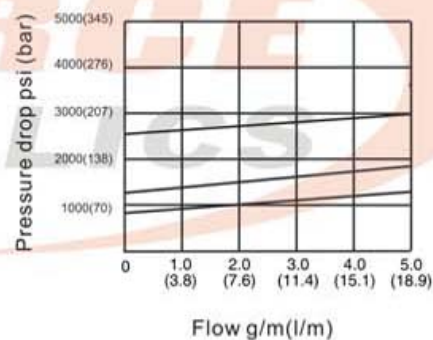
#### Symbol



#### Technical data

Model		DRV08-20
Max. flow rate (l/min)		20
Internal leakage when closed (ml/min)		≤ 3
Weight (g)	Grub screw	167
	Metal knob	220
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

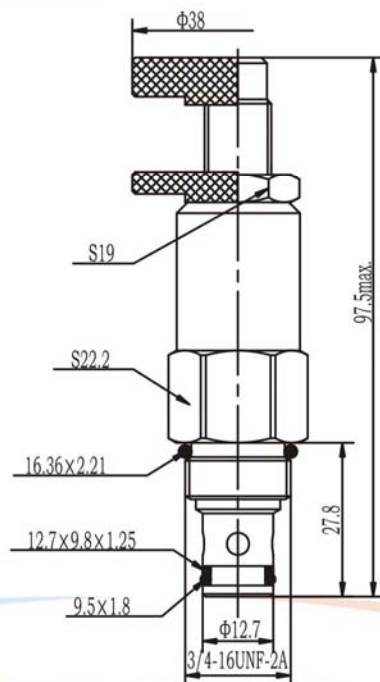
DRV	08	20	B	M
Product type	Cavity	Max. flow rate	Pressure adjustment range	Adjustment type
Direct operated relief valve	VC08-2	20l/m	A: 41~107bar B: 64~147bar C: 128~230bar	No code: Grub screw M: Metal knob



## Pressure Control Valve Series

## DRV08-20 series valve dimensions

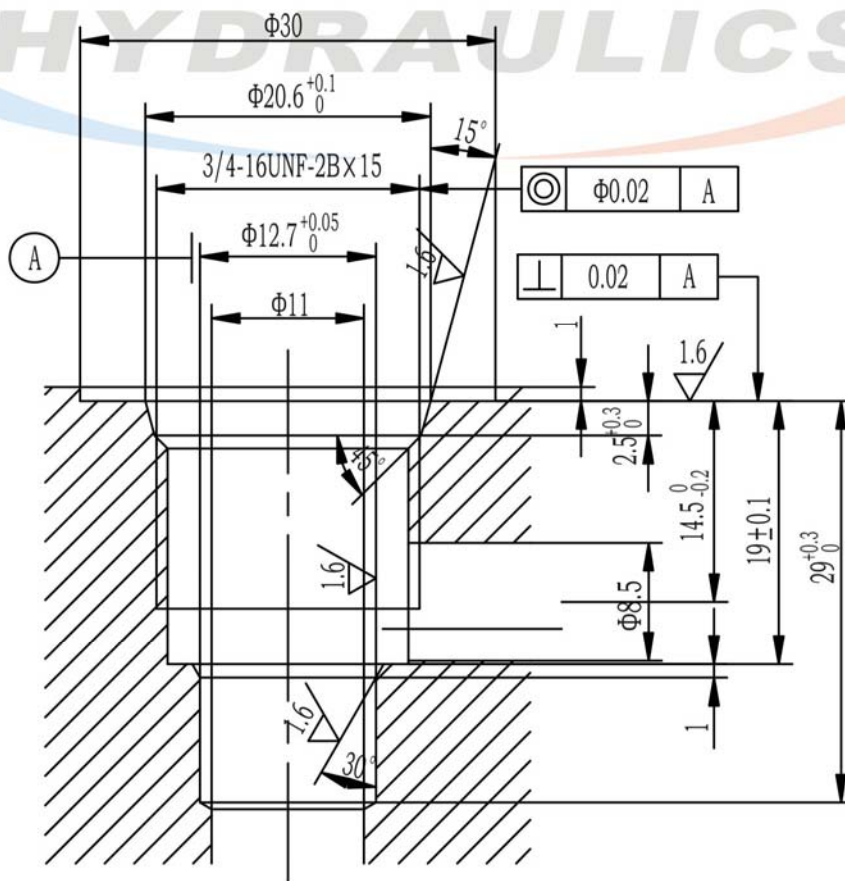
Unit: mm



## J6

## DRV08-20 series cavity dimensions

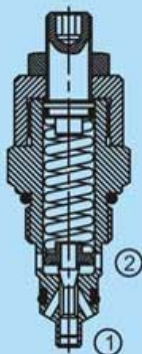
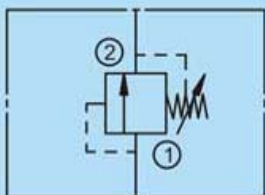
Unit: mm



## Pressure Control Valve Series

### DRV08-35 Series Direct Operated Relief Valve

#### Symbol

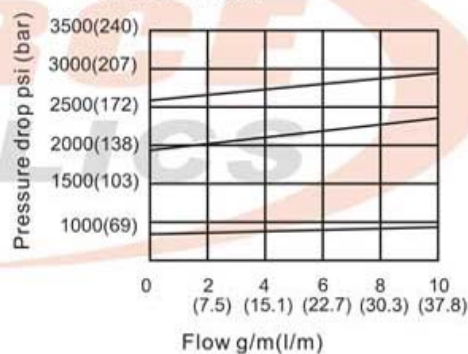


#### Technical data

Model	DRV08-35
Max. flow rate (l/min)	35
Internal leakage (ml/min)	≤3
Weight (g)	135
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

32 cst Oil / 38°C



#### How to order

DRV	08	35	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Direct operated relief valve	VC08-2	35l/m	A: 6~63bar B: 58~171bar C: 140~240bar

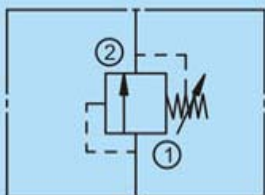




## Pressure Control Valve Series

### DRV08M-50 Series Direct Operated Relief Valve

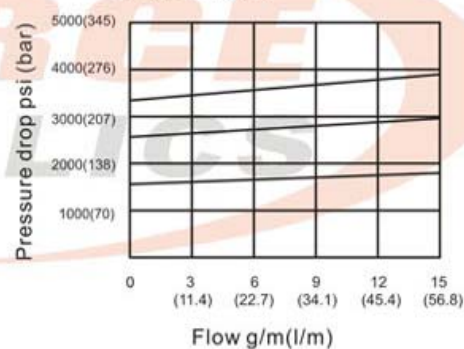
#### Symbol



#### Technical data

Model	DRV08M-50
Max. flow rate (l/min)	50
Internal leakage (ml/min)	≤3
Weight (g)	231
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

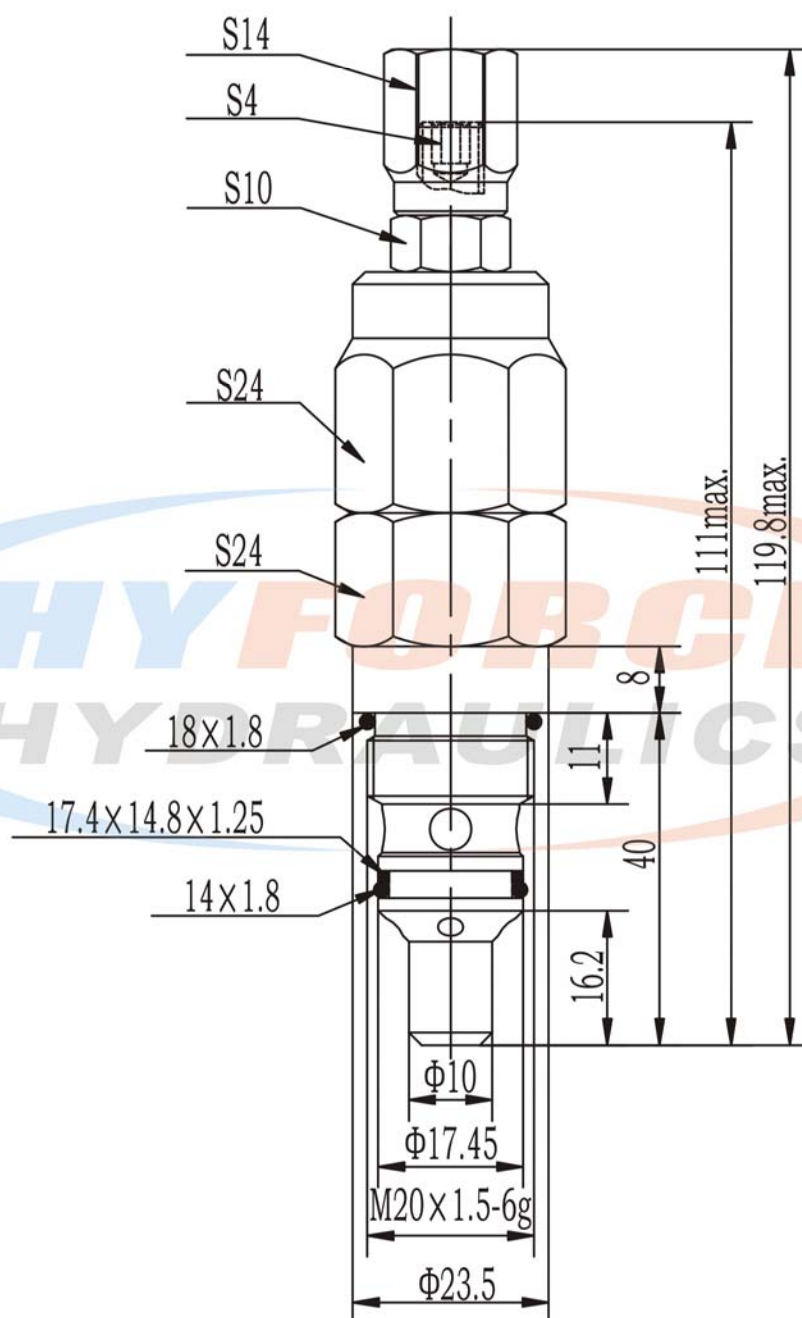
DRV	08M	50	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Direct operated relief valve	VC08M-2	50l/m	A: 40~123bar B: 97~210bar C: 178~350bar



## Pressure Control Valve Series

### DRV08M-50 series valve dimensions

Unit: mm

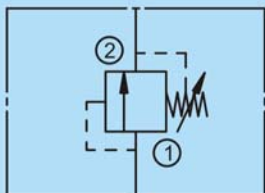


J10

## Pressure Control Valve Series

### DRV10-50 Series Direct Operated Relief Valve

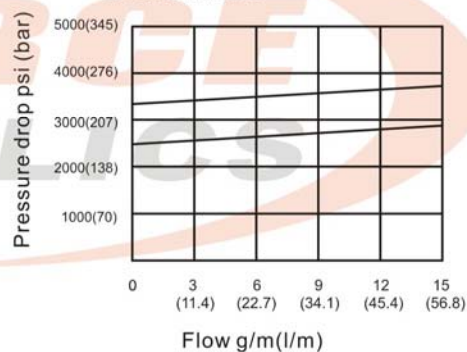
#### Symbol



#### Technical data

Model	DRV10-50
Max. flow rate (l/min)	50
Internal leakage (ml/min)	≤3
Weight (g)	220
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

DRV	10	50	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Direct operated relief valve	VC10-2	50l/m	A: 15~195bar B: 55~285bar



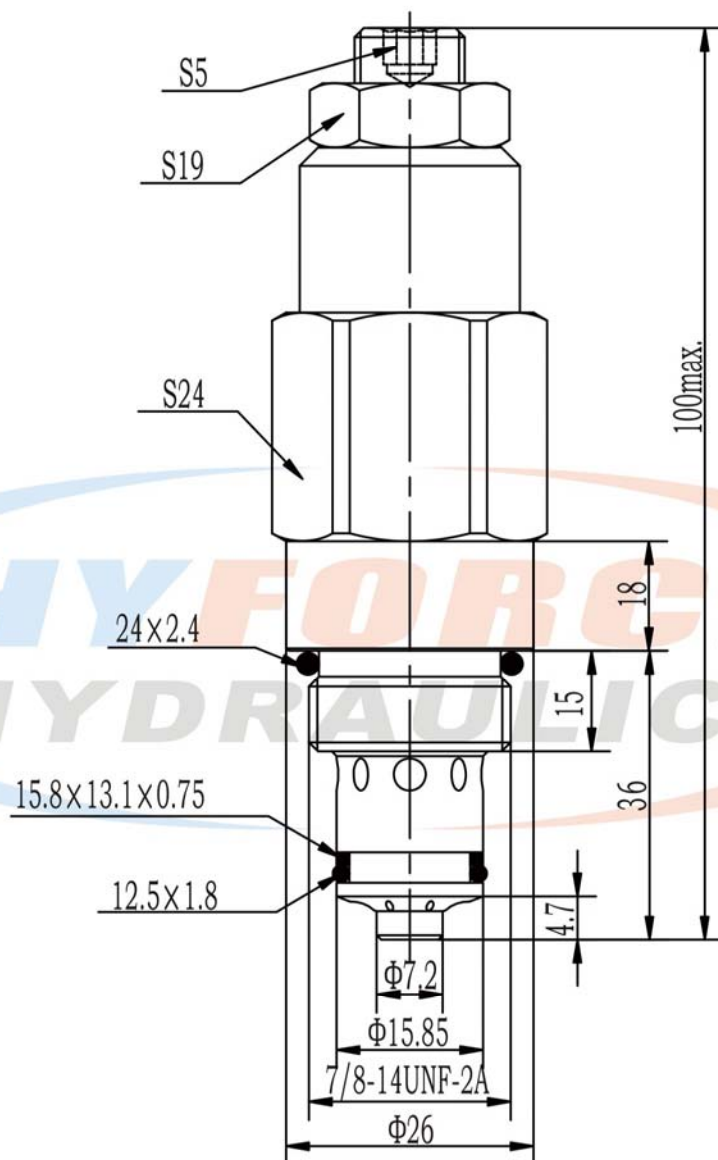


## Pressure Control Valve Series

### DRV10-50 series valve dimensions

Unit: mm

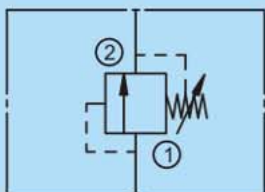
J12



## Pressure Control Valve Series

### DRV10M-90 Series Direct Operated Relief Valve

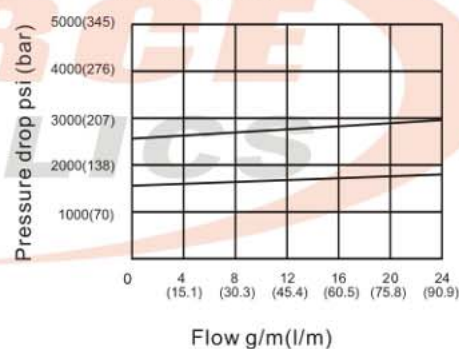
#### Symbol



#### Technical data

Model	DRV10M-90
Max. flow rate (l/min)	90
Internal leakage (ml/min)	≤ 3
Weight (g)	250
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

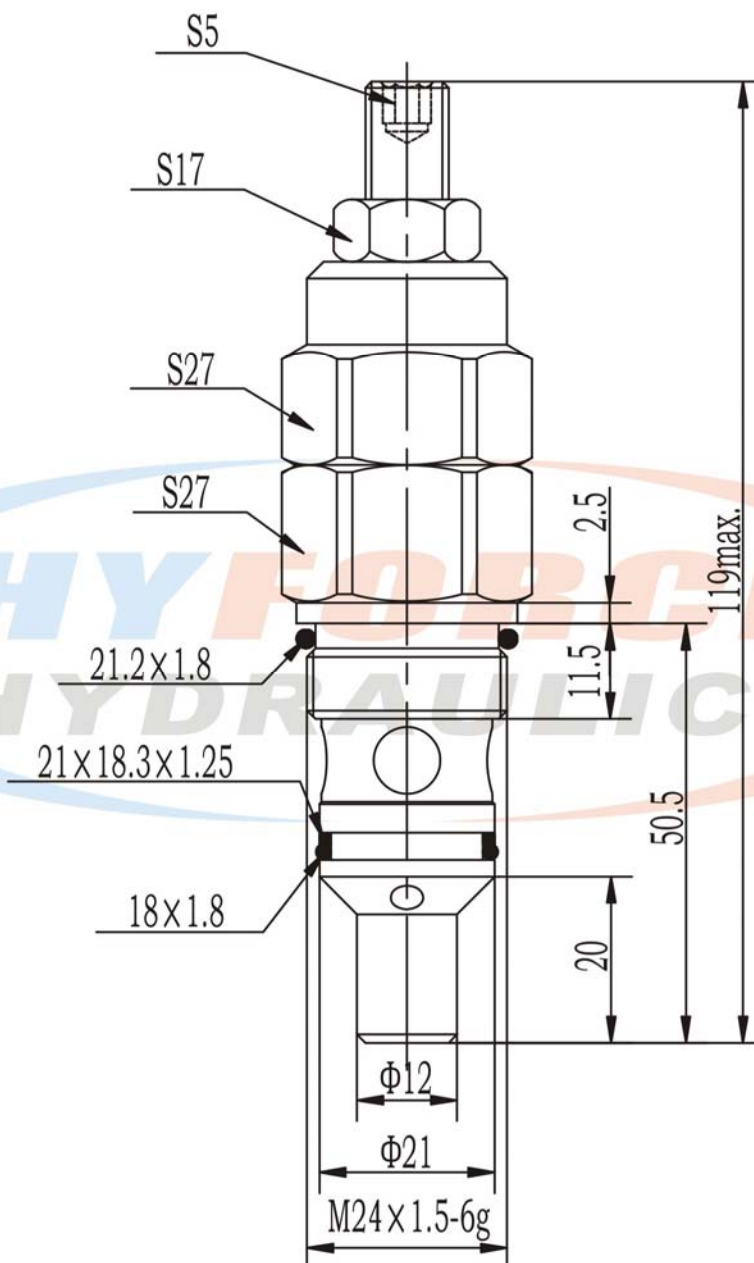
DRV	10M	90	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Direct operated relief valve	VC10M-2	90l/m	A: 29~128bar B: 97~210bar

## Pressure Control Valve Series

### DRV10M-90 series valve dimensions

Unit: mm

J14

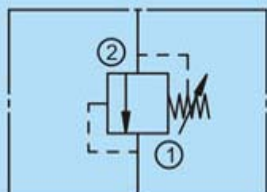




## Pressure Control Valve Series

### DRV10-90 Series Direct Operated Relief Valve

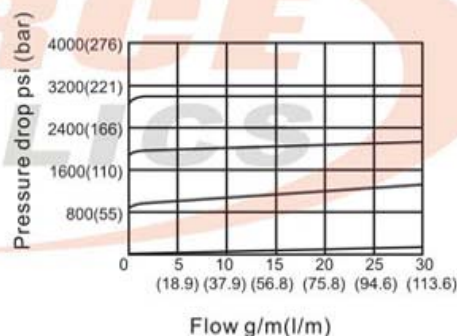
#### Symbol



#### Technical data

Model	DRV10-90
Max. flow rate (l/min)	90
Internal leakage (ml/min)	≤3
Weight (g)	250
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

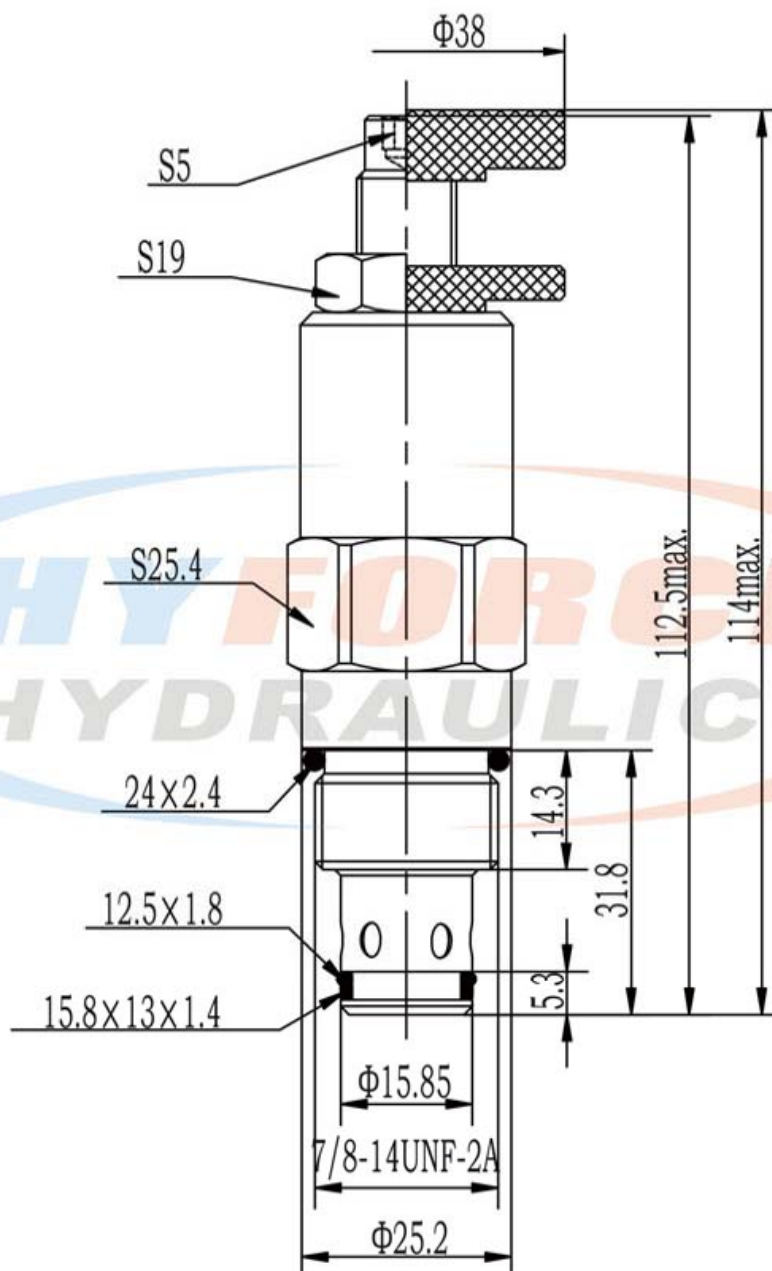
DRV	R	10	90	B	M
Product type	Flow direction	Cavity	Max. flow rate	Pressure adjustment range	Manual override
Direct operated relief valve	Reverse flow	VC10-2	90l/m	A: 10~100bar B: 50~250bar	No code: Standard M: Manual override



## Pressure Control Valve Series

### DRVR10-90 series valve dimensions

Unit: mm

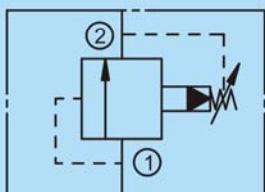


J16

## Pressure Control Valve Series

### PRV12M-113 Series Pilot Operated Relief Valve

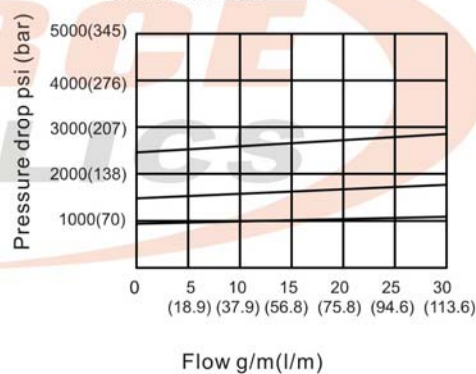
#### Symbol



#### Technical data

Model	PRV12M-113
Max. flow rate (l/min)	113
Internal leakage (ml/min)	≤3
Weight (g)	265
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

Pressure drop VS flow  
32 cst Oil / 38°C



#### How to order

PRV	12M	113	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Pilot operated relief valve	VC12M-2	113l/m	A: 16~69bar B: 81~175bar C: 148~350bar

A

B

C

D

E

F

G

H

I

J17

K

L

M

N

O

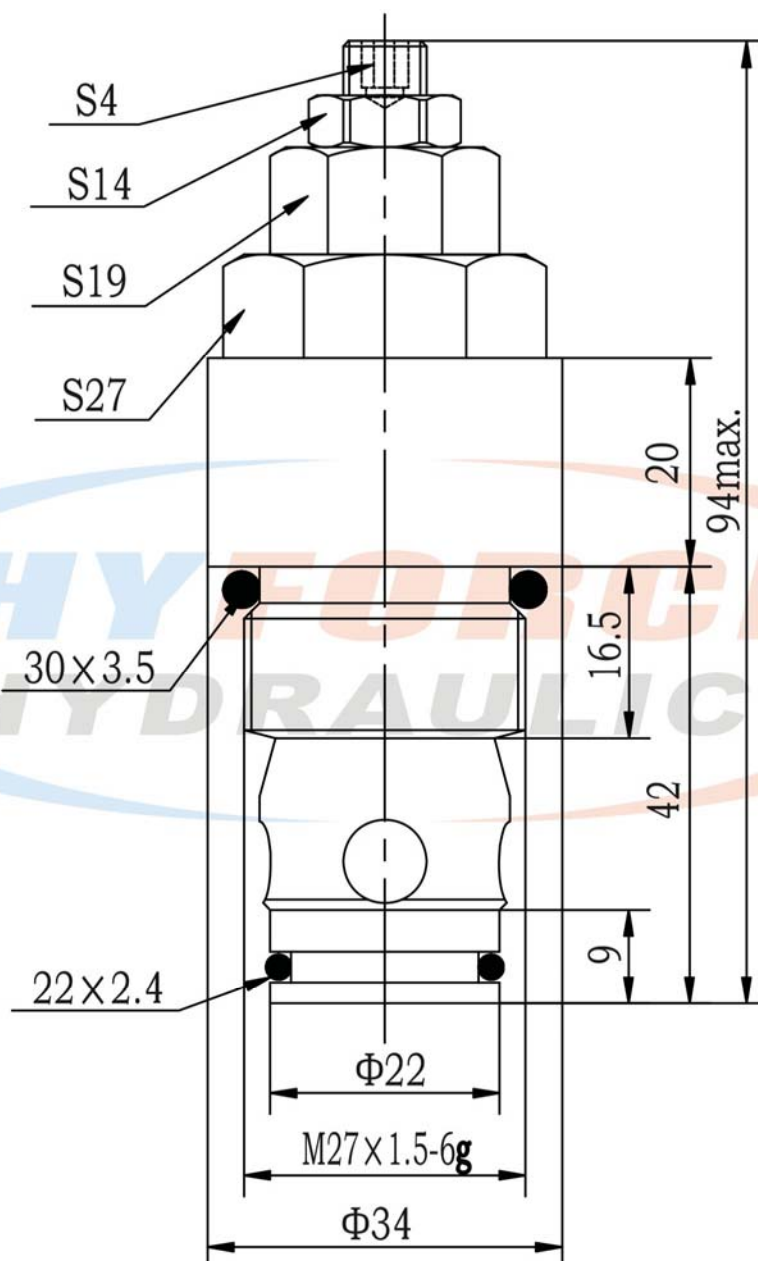
P



## Pressure Control Valve Series

### PRV12M-113 series valve dimensions

Unit: mm

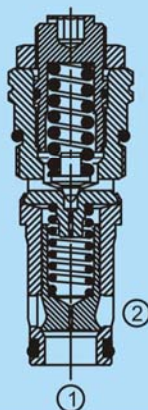
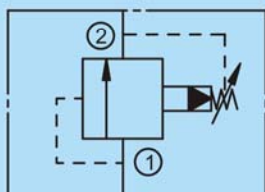


J18

## Pressure Control Valve Series

### PRV16M-300 Series Pilot Operated Relief Valve

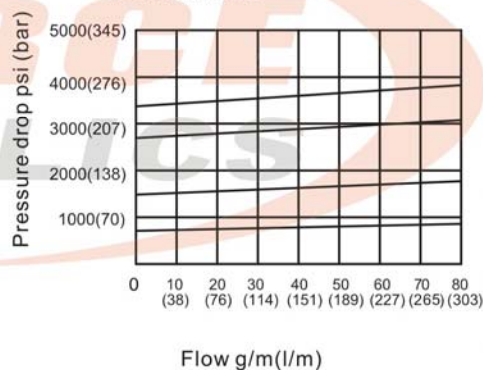
#### Symbol



#### Technical data

Model	PRV16M-60
Max. flow rate (l/min)	300
Internal leakage (ml/min)	≤3
Weight (g)	249
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



#### How to order

PRV	16M	300	B
Product type	Cavity	Max. flow rate	Pressure adjustment range
Pilot operated relief valve	VC16M-2	300l/m	A: 82~146bar B: 132~250bar C: 180~350bar

A

B

C

D

E

F

G

H

I

J19

K

L

M

N

O

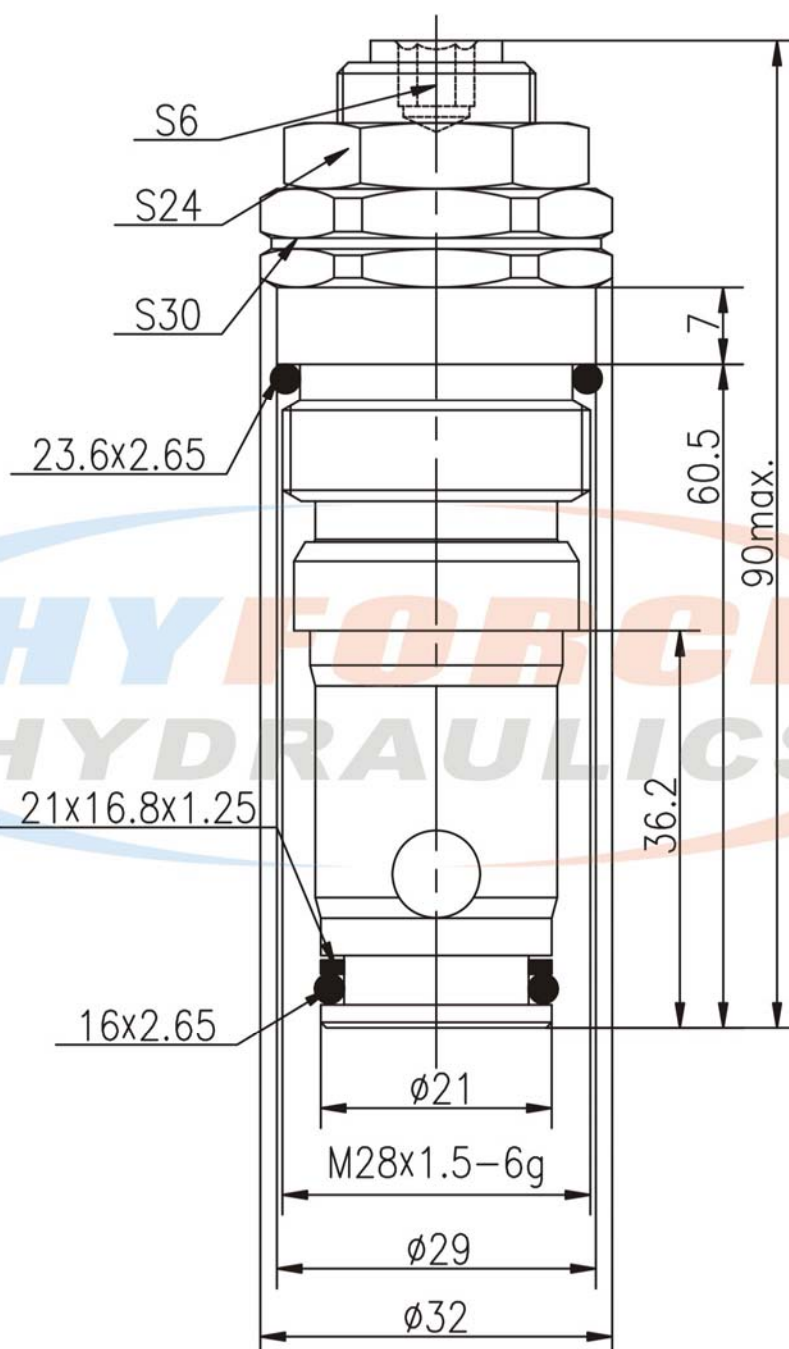
P



## Pressure Control Valve Series

### PRV16M-300 series valve dimensions

Unit: mm



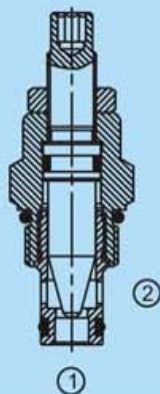
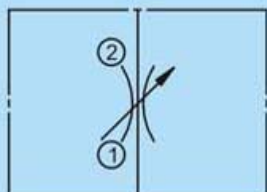
J20



## Flow Control Valve Series

### NV08 Series Needle Valve

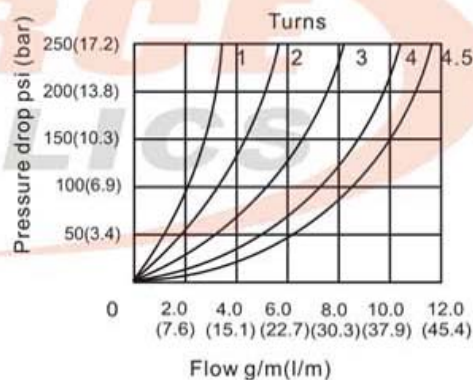
#### Symbol



#### Technical data

Model		NV08
Max. flow rate (l/min)		45
Internal leakage when closed (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Grub screw	97
	Metal knob	125
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

**Pressure drop VS flow**  
32 cst Oil / 38°C



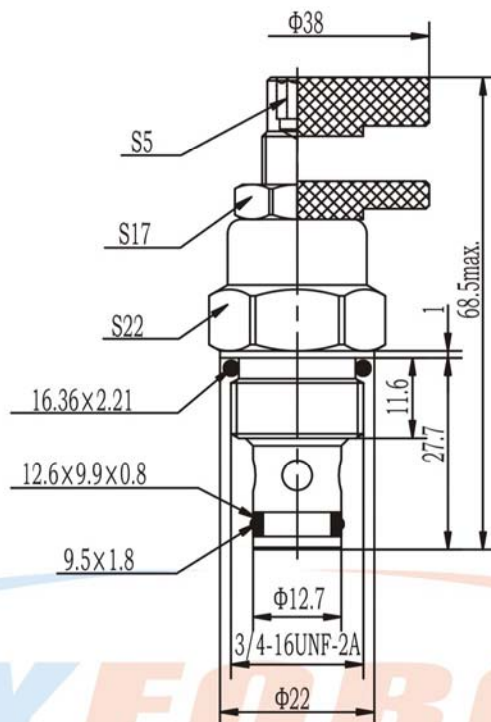
#### How to order

NV	08	M
Product type	Cavity	Adjustment type
Needle valve	VC08-2	No code: Grub screw M: Metal knob

## Flow Control Valve Series

### NV08 series valve dimensions

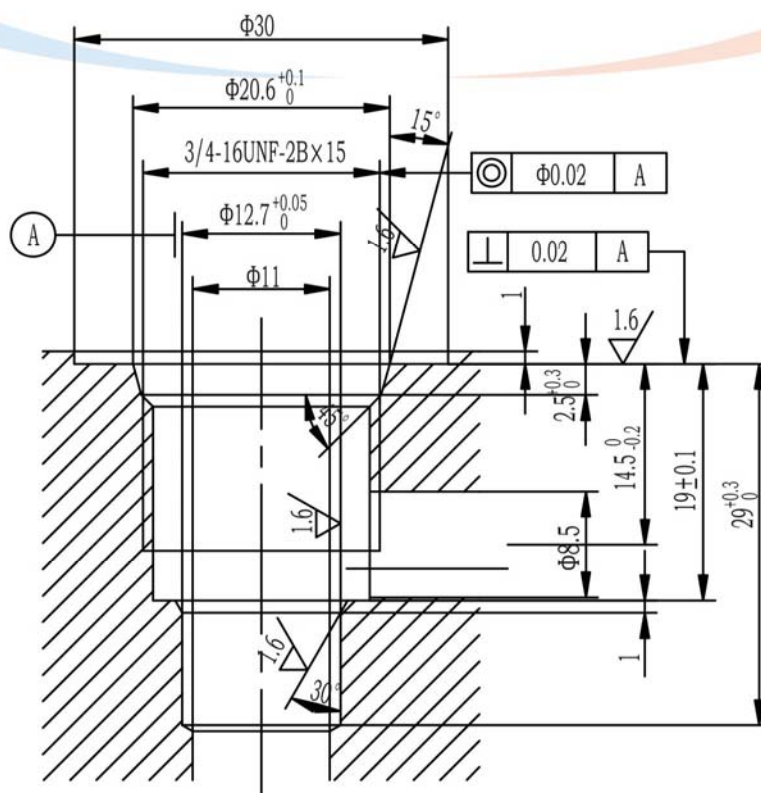
Unit: mm



K2

### NV08 series cavity dimensions

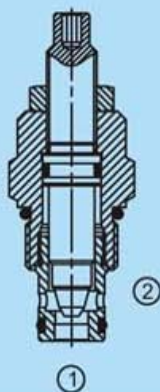
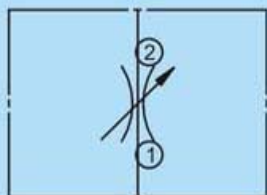
Unit: mm



## Flow Control Valve Series

### NV10 Series Needle Valve

#### Symbol

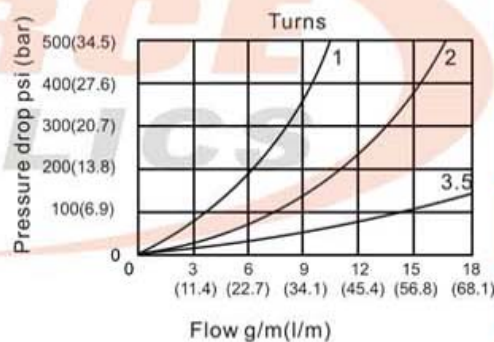


#### Technical data

Model		NV10
Max. flow rate (l/min)		68
Internal leakage when closed (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Grub screw	285
	Metal knob	317
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

32 cst Oil / 38°C



#### How to order

NV	10	M
Product type	Cavity	Adjustment type
Needle valve	VC10-2	No code: Grub screw M: Metal knob

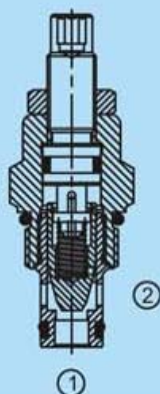
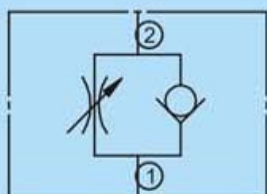




## Flow Control Valve Series

### FC08 Series Flow Control Valve with Reverse Flow Check

#### Symbol

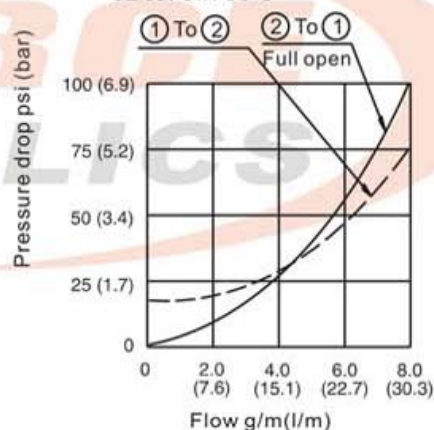


#### Technical data

Model		FC08
Max. flow rate (l/min)		30
Internal leakage when closed (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Grub screw	94
	Metal knob	122
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

32 cst Oil / 38°C



#### How to order

FC	08	M
Product type	Cavity	Adjustment type
Flow control valve with reverse flow check	VC08-2	No code: Grub screw M: Metal knob

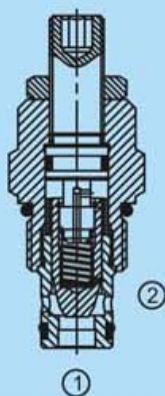
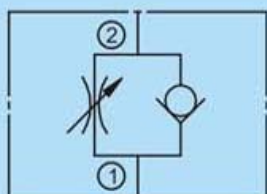




## Flow Control Valve Series

### FC10 Series Flow Control Valve with Reverse Flow Check

#### Symbol

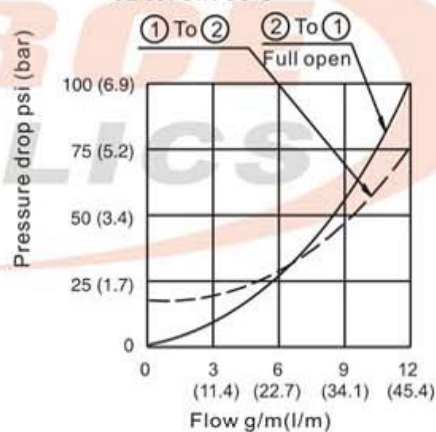


#### Technical data

Model		FC10
Max. flow rate (l/min)		45
Internal leakage when closed (ml/min)		≤0.3
Max. working pressure (bar)		250
Weight (g)	Grub screw	171
	Metal knob	207
Hydraulic fluid		Mineral oil
Seal material		NBR seals
Temperature range (°C)		-30 to +80
Viscosity range (mm <sup>2</sup> /s)		2.8 to 500
Oil cleanliness class according to ISO4406		Class 20/18/15

#### Pressure drop VS flow

32 cst Oil / 38°C



#### How to order

FC	10	M
Product type	Cavity	Adjustment type
Flow control valve with reverse flow check	VC10-2	No code: Grub screw M: Metal knob



## FC10 series valve dimensions

Unit: mm



## FC10 series cavity dimensions

Unit: mm

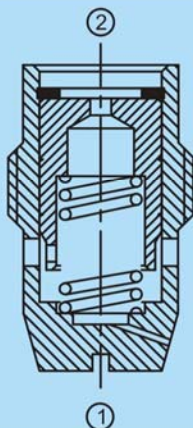
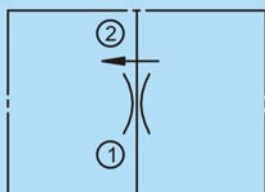


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## Flow Control Valve Series

### FR06G Series Flow Regulator with Pressure Compensated

#### Symbol



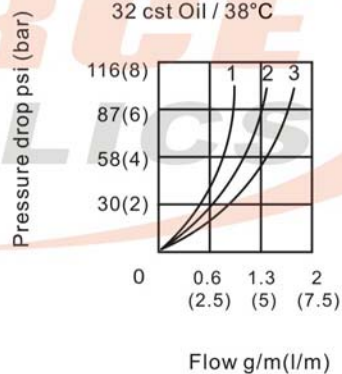
#### Technical data

Model	FR06G
Max. flow rate (l/min)	6.2
Max. working pressure (bar)	210
Weight (g)	12
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ①

32 cst Oil / 38°C



#### How to order

FR	06G	12
Product type	Cavity	Flow rate range
Flow regulator with pressure compensated	G3/8	12: 1.4~3.6l/min 15: 2~4.7l/min 20: 3.5~6.2l/min

A

B

C

D

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I

J

K9

L

M

N

O

P

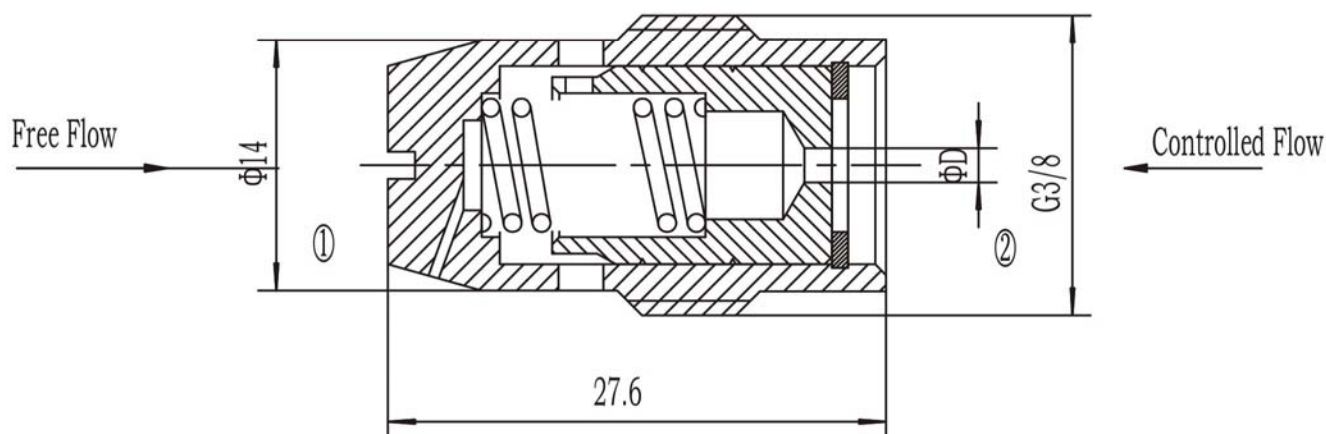




## Flow Control Valve Series

### FR06G series valve dimensions

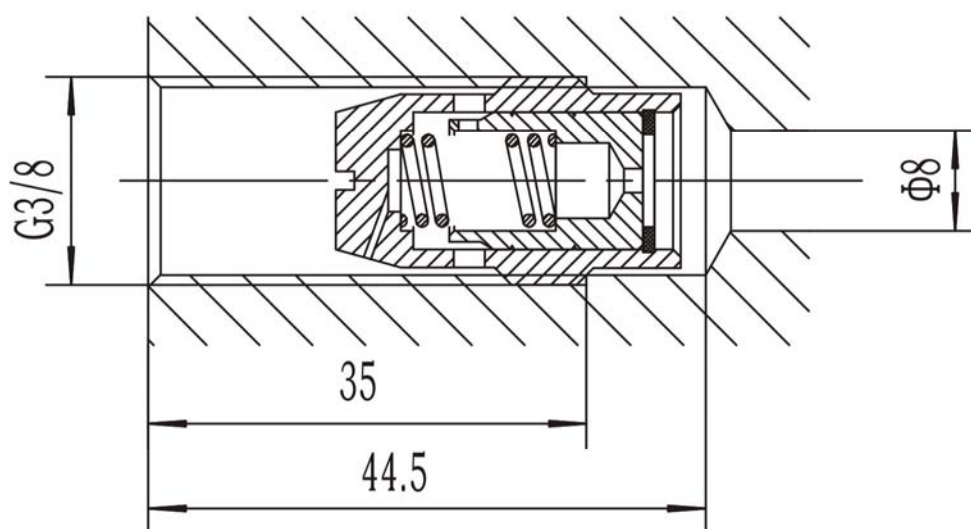
Unit: mm



K10

### FR06G series cavity dimensions

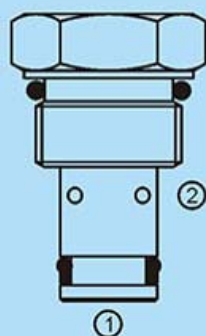
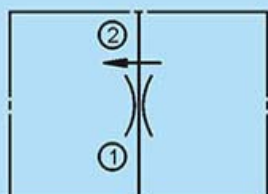
Unit: mm



## Flow Control Valve Series

### FR08 Series Flow Regulator with Non-adjustable Pressure Compensated

#### Symbol

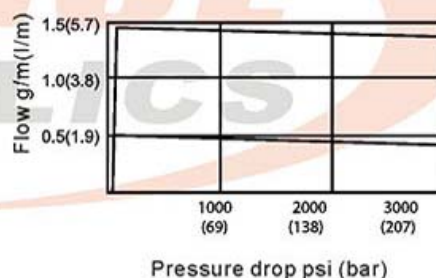


#### Technical data

Model	FR08
Max. flow rate (l/min)	10
Max. working pressure (bar)	250
Weight (g)	50
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ①  
32 cst Oil / 38°C



#### How to order

FR	08	05
Product type	Cavity	Flow rate range
Flow regulator with non-adjustable pressure compensated	VC08-2	05: 1.4~3.6l/min 10: 3.5~6.2l/min 20: 5.2~8.5l/min 30: 7.5~9.9l/min



## Unit: mm

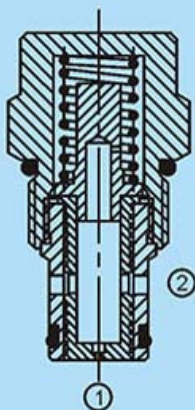
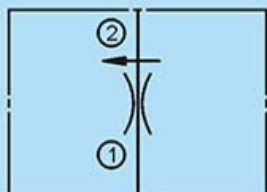
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## Flow Control Valve Series

### FR10 Series Flow Regulator with Non-adjustable Pressure Compensated

#### Symbol



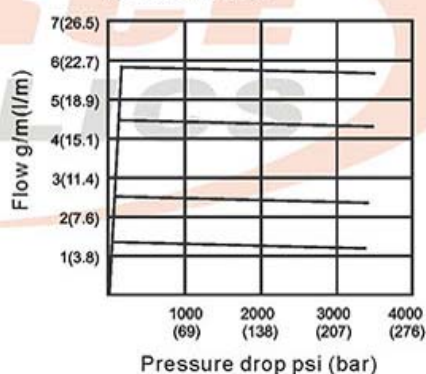
#### Technical data

Model	FR10
Max. flow rate (l/min)	20
Max. working pressure (bar)	250
Weight (g)	110
Hydraulic fluid	Mineral oil
Seal material	NBR seals
Temperature range (°C)	-30 to +80
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500
Oil cleanliness class according to ISO4406	Class 20/18/15

#### Pressure drop VS flow

② To ①

32 cst Oil / 38°C



#### How to order

FR	10	05
Product type	Cavity	Flow rate range
Flow regulator with Non-adjustable pressure compensated	VC10-2	05: 0.4~2.0l/min 10: 2.1~5.8l/min 20: 6.0~20l/min

A

B

C

D

E

F

G

H

I

J

K13

L

M

N

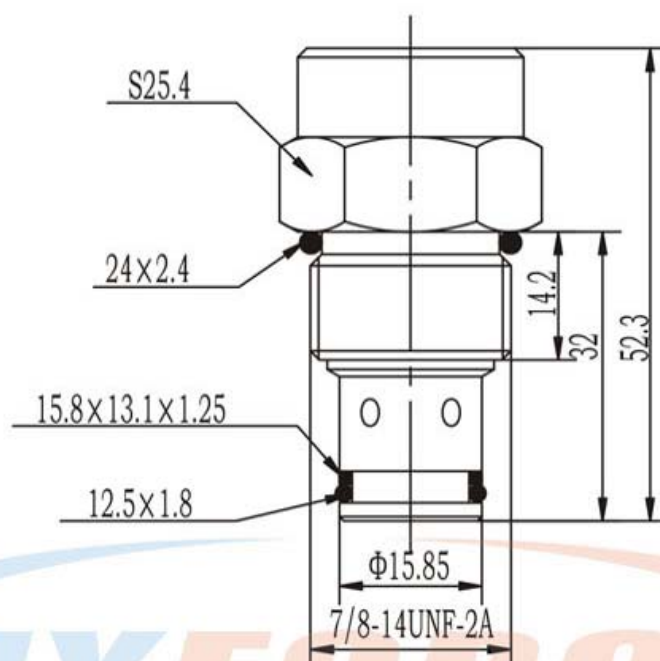
O

P

## Flow Control Valve Series

## FR10 series valve dimensions

Unit: mm



# K14

## FR10 series cavity dimensions

Unit: mm

