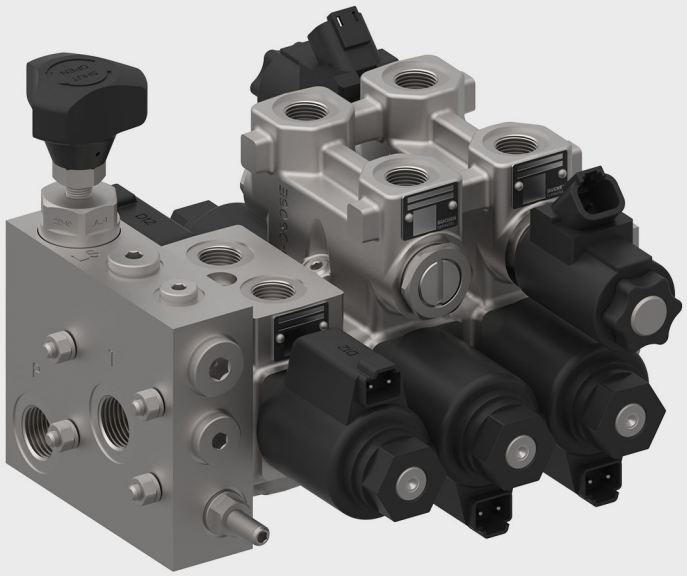
BUCHER hydraulics

Load Sensing Directional Valve Control
Series HDS06

Product catalog



Reference: 600-P-020030-EN-01/07.2026

Table of Contents

1 General information

1.1 Description

The HDS06 valve can be used for systems with constant and variable pumps. The internal load signal avoids unnecessary energy losses. The pressure losses in neutral circulation are constant regardless of the number of valves, in the partial load range the excess oil quantity flows to the tank only against the working pressure.

1.2 Application Example

Application Example General

The valve is designed for harsh operating conditions in agricultural and construction applications. Due to the Zi-Ni coating and the high switching force, the HDS06 is perfectly suited for these applications and designed for a long service life.

Application Example: Slurry Technology

The HDS06 valve ensures absolutely reliable and robust control of application tools under extremely harsh environmental conditions. It delivers the following technical advantages in practical field use:

- **Flexibility:** The simple Open Center / Closed Center switchability allows quick adaptation of the slurry tanker to different tractors and pump systems (fixed or variable displacement pumps).
- **Precise LS Integration:** Optimal integration into the Load Sensing circuit ensures highly efficient, demand-based flow control.
- **High Energy Efficiency:** A low internal pressure drop of 9 bar minimizes heat generation within the hydraulic system, protecting components and noticeably reducing the tractor's fuel consumption.
- **Compact Modularity:** The valve can be seamlessly combined with other proven valves (such as LVS and L.8S) in one block, enabling tailored hydraulic solutions with minimal mounting and piping effort on the vehicle.
- **Robustness:**The high switching force guarantees safe and reliable switching of the distributors—even under severe external contamination. At the same time, the standard Zi-Ni coating provides excellent, long-lasting protection against the highly corrosive effects of slurry and organic fertilizers.
- **Protection Against Miscoupling:**The valve's high tank pressure resistance up to 210 bar reliably protects the hydraulic system from damage if the connections to the towing vehicle are accidentally interchanged or miscoupled.

Application Example: Aerial Working Platform

The HDS06 valve ensures precise, safe, and smooth control of lifting and telescoping functions in aerial work platforms. It delivers the following technical advantages in this safety-critical application:

- **Wide Portfolio:** For maximum flexibility and efficient assembly, sections equipped with integrated counter balance valves, shock valves, as well as optional manual levers for emergency operation are readily available.
- **Compact Modularity:** The valve can be seamlessly combined with proven sections like LVS and L.8S in a single, compact functional block. Upstream proportional valves enable highly responsive and fine-tuned control of all movements, ensuring maximum operator safety at height.
- **Precise LS Integration:** Optimal integration into the Load Sensing circuit ensures highly efficient, demand-based flow control that remains independent of the load and simultaneous function executions.
- **High Energy Efficiency:** A low internal pressure drop of 9 bar drastically minimizes heat generation within the hydraulic system. This significantly extends the operating time per battery charge, particularly in battery-electric driven platforms.

2 Technical data

2.1 General technical data

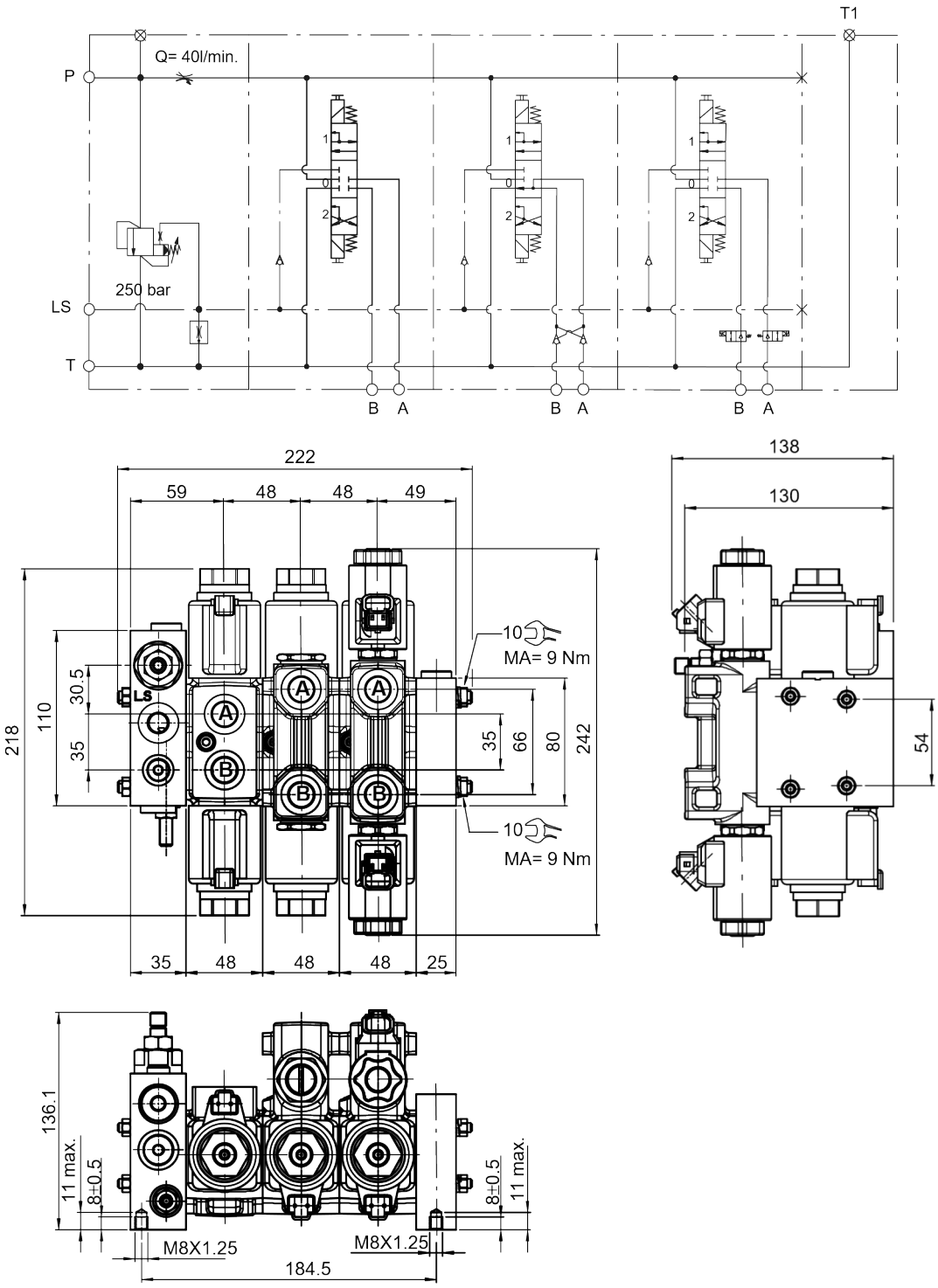
General Characteristics	Bezeichnung, Wert, Einheit
Designation	Directional Control Valve
Design	solenoid operated
Surface Protection	Zink-Nickle (ZnNi) 720 h
Mounting method	section port thread size: G3/8" or equivalent
Size	Nominal size 6
Weight	HDS06 Standard LS section 3.15 kg HDS06 PO check valve section 5.25 kg HDS06 Electrical seat valve section 4.60 kg HDS06T11 2.90 kg HDS06T32 2.70 kg HDS06T62 2.70 kg HDS06P21 1.25 kg

Hydraulic Characteristics	Bezeichnung, Wert, Einheit
Maximum operating pressure: inlet pressure (P) port pressure (A/B) tank pressure	 300 bar 320 bar 210 bar (intermittent)
Maximum flow rate: flow inlet flow port flow return	 80 l/min 40 l/min at Δp 9 bar 80 l/min
Internal leakage: standard section PO check valve section seat valve section	 16 cc/min. at 100 bar and 35 cSt. 1 cc/min. at 100 bar and 35 cSt. 1 cc/min. at 100 bar and 35 cSt.
Hydraulic fluid temperature range	-20°C - +80°C
Hydraulic fluid	Recommendation: high-quality fluids with a mineral-oil base, such as HLP oils to DIN 51524 part 2.
Sealing	NBR
Viscosity operating range: recommended admissible	 15 - 75 mm^2/s (cSt.) 12 - 400 mm^2/s (cSt)

Electrical Characteristics	Bezeichnung, Wert, Einheit
Nominal voltage	12 / 24 V DC
Power consumption	27 W (22 W available with limitations)
Supply voltage tolerance	±10%
Duty cycle	100 % ED

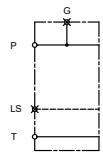
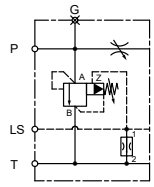
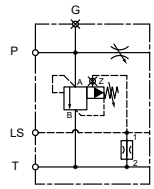
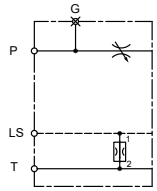
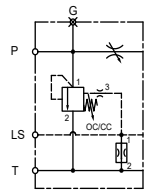
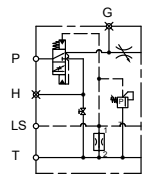
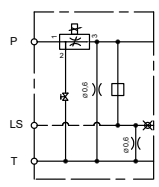
3 Schematic

Schematic (variants) and Dimensional Data



4 Inlet Sections

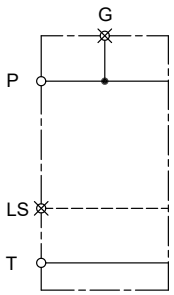
4.1 Overview Inlet Sections

Schematic	Part number	Description
	600102100045 HDS06T11XXXG12ZXX-XX-0	Inlet section for LS pump Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100076 HDS06T62XXXG12Z25-40-0	Inlet section for fixed pump Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100079 HDS06T32XXXG12Z25-40-0	Inlet section for variable LS pump Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100242 HDS06T15XXXG12ZXX-40-1	Inlet section with LS unloading valve Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100111 HDS06T12XXXG12ZXX-40-1	wInlet section for LS and fixed pump Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100255 HDS06T16XXXG12Z19-40-0	Inlet section for OC/CC with 2-way compensator Port size: P / T / H = G 1/2" LS / G = G 1/4"
	1000XXXXXX SRMBXXXN3G-1XXX/OC-CC/HDS06	Inlet section for OC/CC with electro-proportional control Port size: P / T = G 3/4" LS = G 1/4"

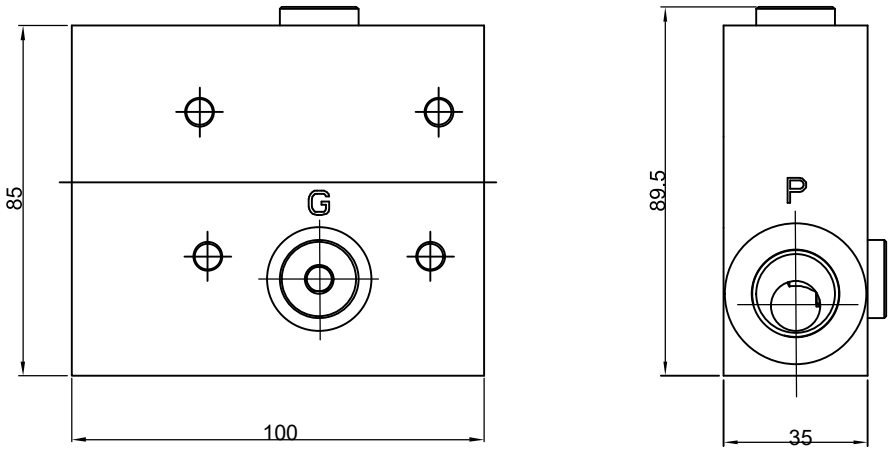
4.2 Inlet Section HDS06T11... without Function

- Max. inlet flow = 80 l/min
- Inlet section with P, T and LS port
- Port size: P, T = 1/2" BSP, LS = 1/4" BSP

Symbol



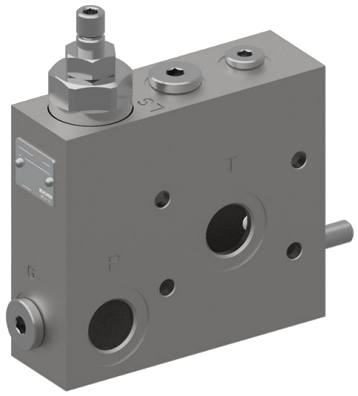
Dimension



Order Information

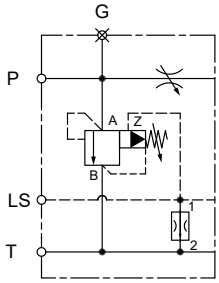
Description	Ordering Code
HDS06T11XXXG12ZXXXXX-0	600102100045

4.3 Inlet Section HDS06T62... for Fixed Pump



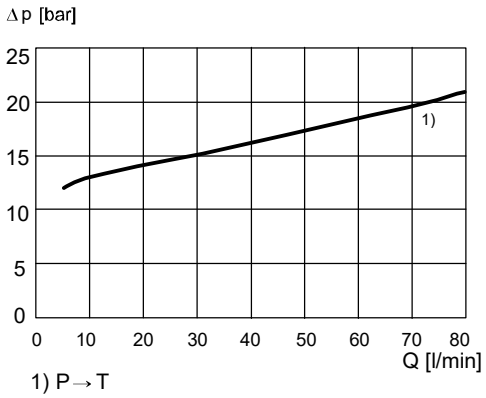
- Max. inlet flow = 80 l/min
- 3-way compensator function for fixed pump
- 2-stage pressure relief, adjustable from outside of the valve
- LS bleeding valve
- Port size: P, T = 1/2" BSP, LS, G = 1/4" BSP

Symbol

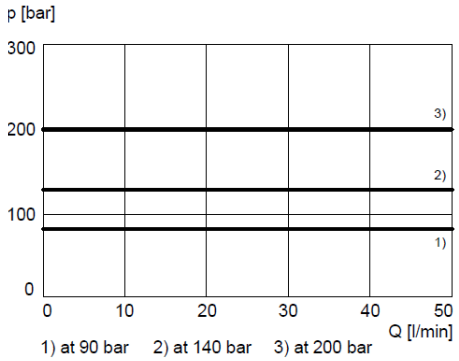


Performance Graphs

Δp = f (Q) Pressure drop - Flow rate characteristic



p = f (Q) Performance limits



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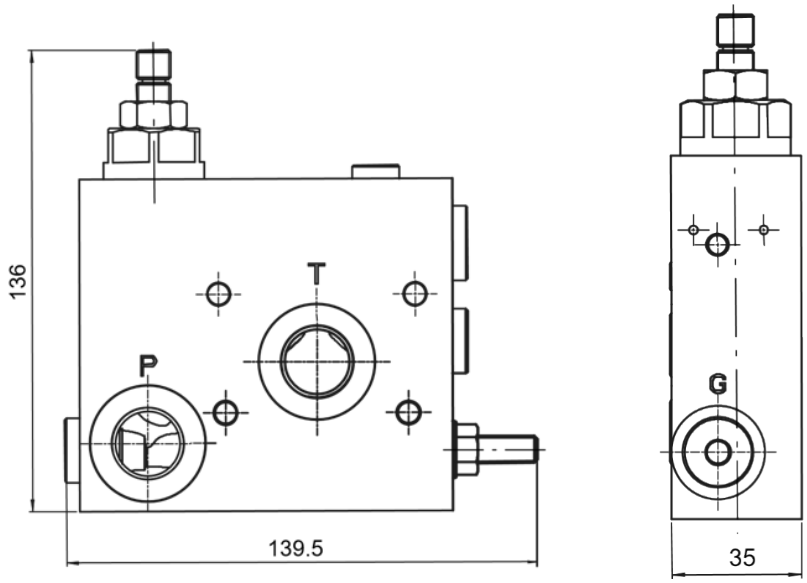
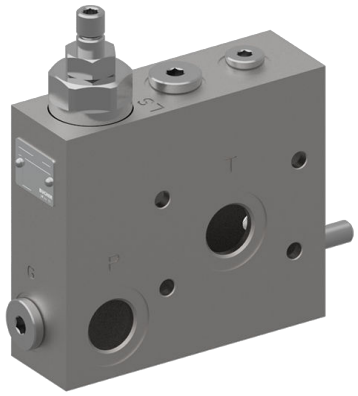


Order Information

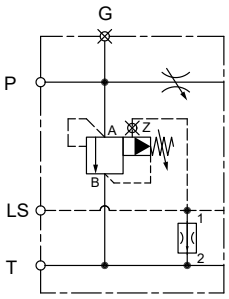
Description	Ordering Code
HDS06T62XXXG12Z25-40-0	600102100076

4.4 Inlet Section HDS06T32... for Variable Pump LS



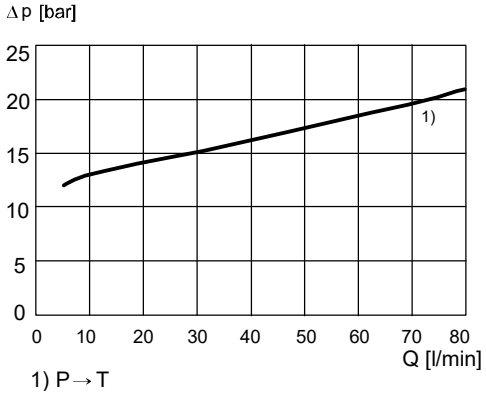
- Max. inlet flow = 80 l/min
- Adjustable flow limiter
- Integral 2-stage pressure relief function (e.g. safety pressure relief in LS system)
- LS bleeding valve
- Port size: P, T = 1/2" BSP, LS, G = 1/4" BSP

Symbol

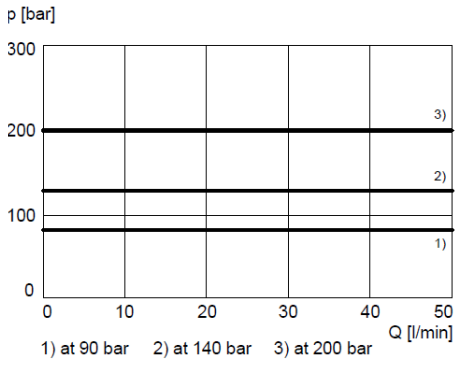


Performance Graphs

Δp = f (Q) Pressure drop - Flow rate characteristic



p = f (Q) Performance limits



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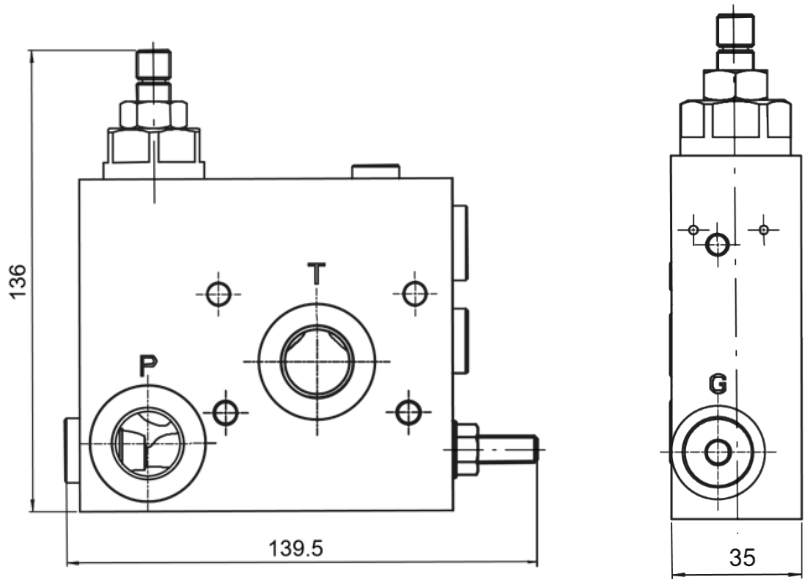
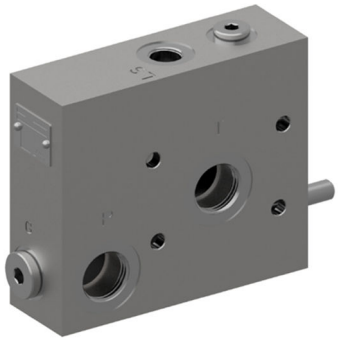


Order Information

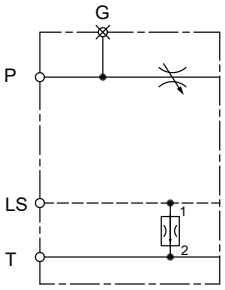
Description	Ordering Code
HDS06T32XXXG12Z25-40-0	600102100079

4.5 Inlet Section HDS06T15... with LS Unloading Valve

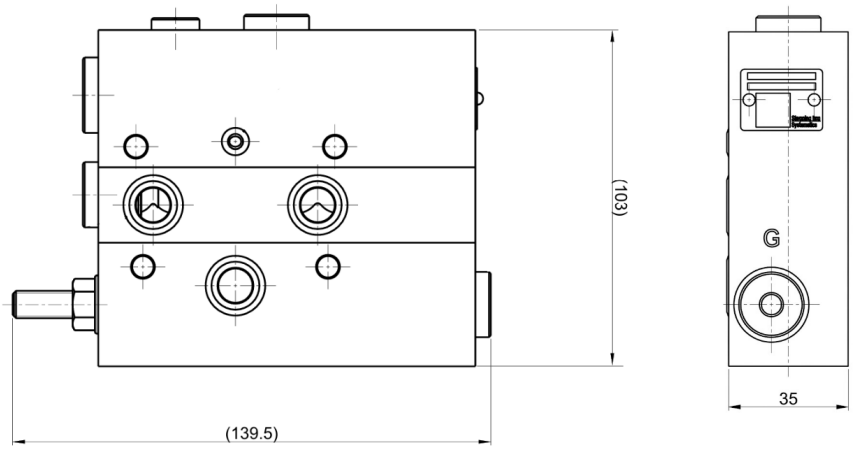


- Max. inlet flow = 80 l/min
- Cost-effective solution
- LS unloading valve
- Port size: P, T = 1/2" BSP, LS, G = 1/4" BSP

Symbol



Dimension



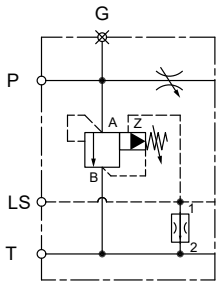
Order Information

Description	Ordering Code
HDS06T15XXXG12Z25-40-0	600102100242

4.6 Inlet Section HDS06T12... for LS and Fixed Pumps

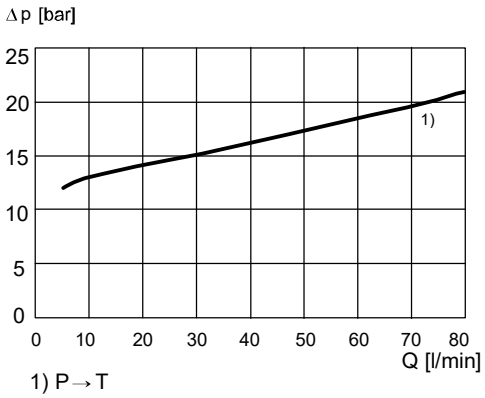
- Max. inlet flow = 40 l/min
- 3-way compensator function
- With ability to change over to LS or constant pressure systems. Typical application example: towed harvester.
  The pressure relief is only operative in the open system.
- LS unloading valve
- Adjustable flow limiter
- Port size: P, T = 1/2" BSP, LS, G = 1/4" BSP

Symbol

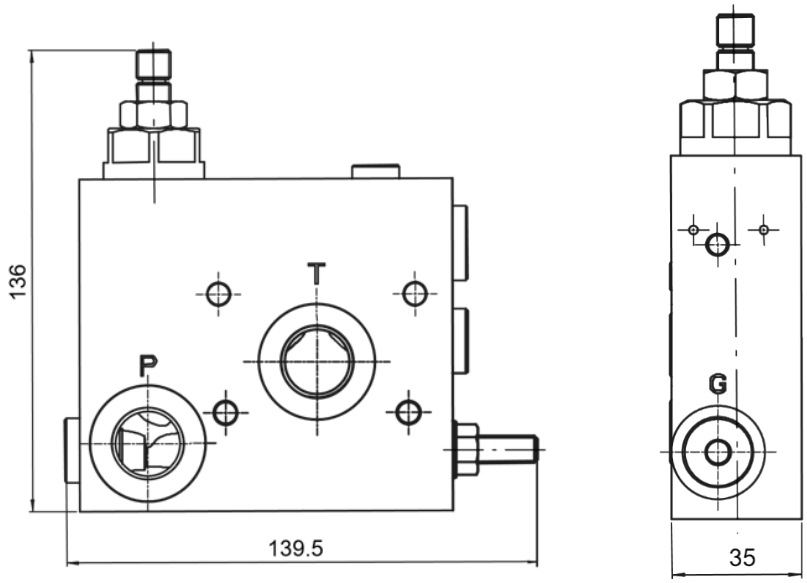


Performance Graphs

Δp = f (Q) Pressure drop - Flow rate characteristic



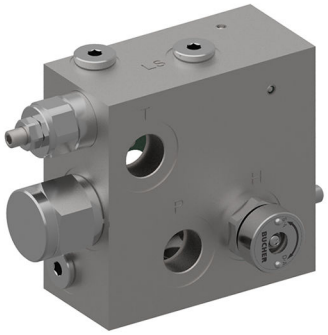
Dimension



Order Information

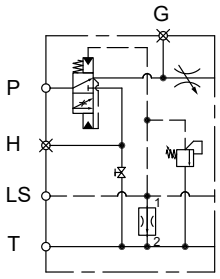
Description	Ordering Code
HDS06T12XXXG12ZXXX-40-1	600102100111

4.7 HDS06T16... Inlet Section for OC/CC with 2-way Compensator



- Max. inlet flow = 80 l/min
- 2 and 3-way pressure compensator function
- LS unloading valve
- Adjustable flow limiter
- With ability to change over to LS or constant pressure systems.
  Typical application example: towed harvester. The pressure relief is only operative in the open system.
- Possible to integrate a priority on port H
- Port size: P, T = 1/2" BSP, LS, G = 1/4"

Symbol



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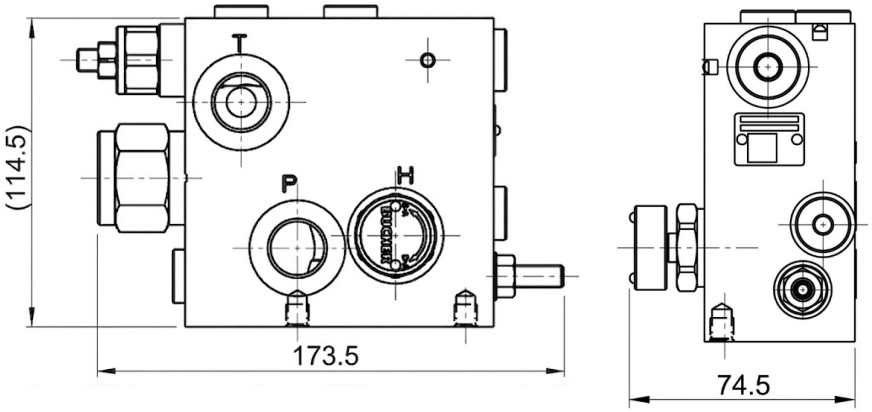


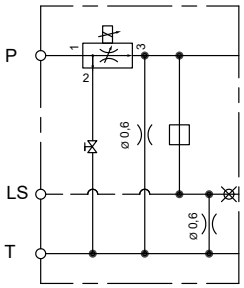
Order Information

Description	Ordering Code
HDS06T16XXXG12Z19-40-0	600102100255

4.8 SRMB/DS06... for OC/CC with Electro-Proportional Control

- Max. inlet flow = 100 l/min
- With ability to change over to LS or constant pressure systems.
  Typical application example: towed harvester.
- Manual hand operation
- LS bleeding orifice
- Ports P, T and LS and tapped holes for protecting the valve block are provided
- Port size: P, T = 3/4" , LS = 1/4"
- Different connectors, voltage or flow settings on demand

Symbol



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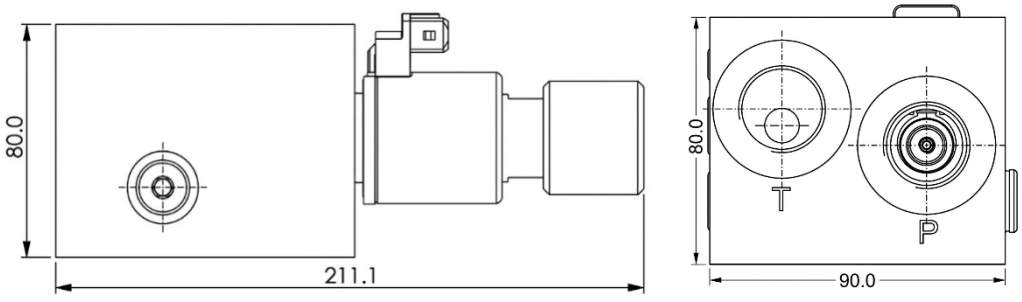
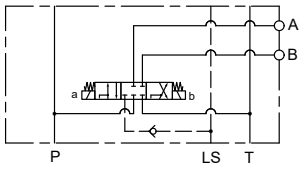
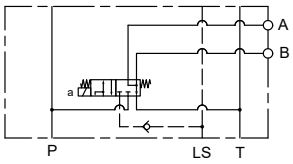
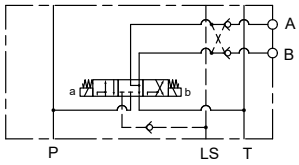
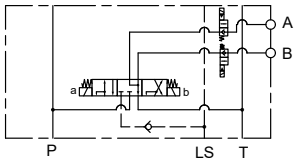
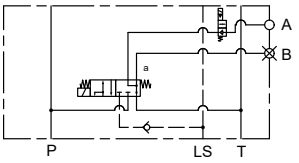
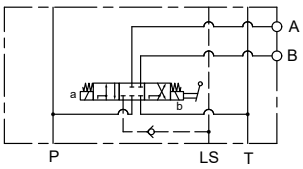
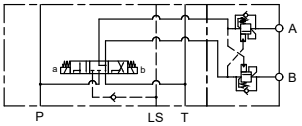
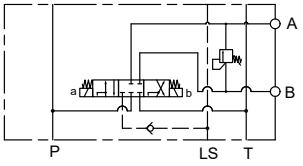


Order Information

Description	Ordering Code
SRMB040N3G-1J12/OC-CC/HDS06	100042170

5 Directional Control Valve Sections

5.1 Overview Valve Sections

Schematic	Description	Short Description
	HDS06X01XXXG38S00Z-0	standard LS section
	HDS06X03XXXG38S00Z-0	single side standard LS section
	HDS06X01XXXG38E11Z-0	piloted check valve, check valve section
	HDS06X01XXXG38EXXZ-0	electric seat valve section
	HDS06X03XXXG38EX0-Z-0	single side electric seat valve section
	HDS06M01XXXG38XXXZ-0	emergency hand lever op- eration
	HDS06C01XXXG38T88Z-0	counterbalance valves
	HDS06AXXXXXG38E60Z-0	with cross port PRV

5.2 Ordering Code Directional Valve Sections

HDS 06 A 01 D 12 G38 S00 Z - ...

Valve Section

HDS = Directional Valve

Valve Size

06 = Nominal Size

Spool Type

A = port A/B closed in neutral position
C = ports A & B connected to port T in neutral position
G = port B closed in neutral position / port A not usable
M = emergency hand lever

Solenoid Position

01	= Solenoid on port A and B	27 W
02	= Solenoid on port B	27 W
03	= Solenoid on port A	27 W
*21	= Solenoid on port A & B	21 W

Connection Type

D	= Axial DT04-2P Deutsch Connector	IP67
H	= DIN Connector ISO 4400 / DIN 43650	IP65
I	= Axial AMP Junior Timer Connector	IP65

Power Consumption

12 = 12 V DC
24 = 24 V DC

Ports

G38 = 3/8“ BSP (Standard)

Integrated Valves on Ports

S00 = no integrated valve
E00 = no integrated valves & 3/4“ UNF plugs on all cavities
E11 = no check valve at port A & B
E22 = no single seat valve at port A & B
E33 = no single seat valve at port A & B
E44 = no double seat valve at port A & B
E99 = no double seat valve at port A & B
E60 = cross port pressure relief valve
T88 = counterbalance valve

Surface Protection

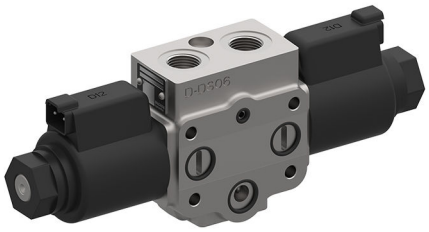
Z = Zink-Nickle Coating (720h DIN EN ISO 9227 NSS)

Design Stage

0 = Design Stage (will be insertetd by the company)

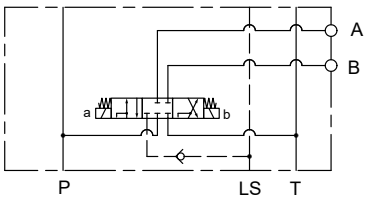
*21 = Qmax = 30 l/min

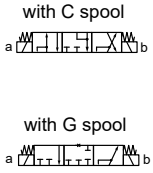
5.3 HDS06 Standard Section



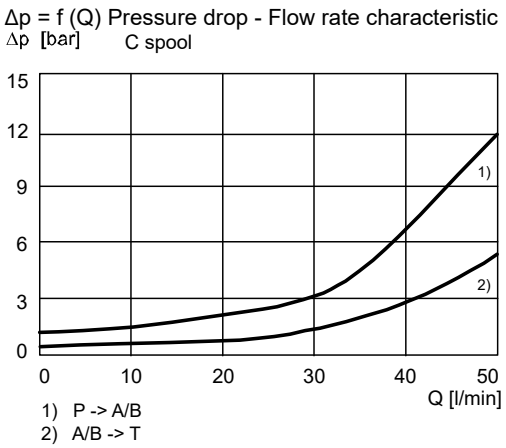
- Body Type: Short body for spool valve
- Leakage: A-spool 16 cc/min at 100 bar and 35 cSt
- Nominal Flow: 40 l/min
- Port size: A, B = 3/8" BSP

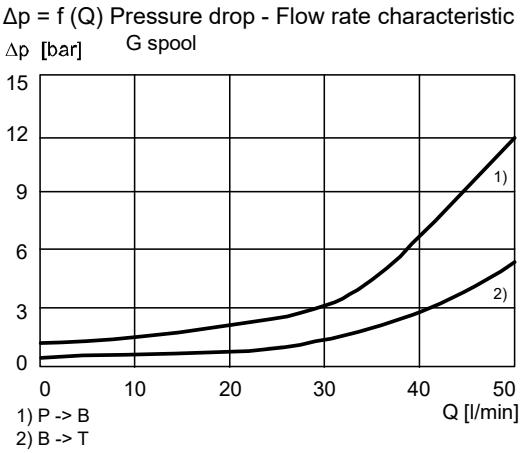
Symbol



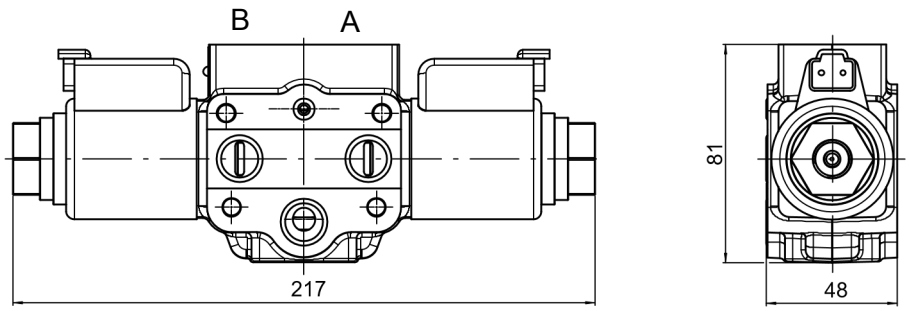


Performance Graphs

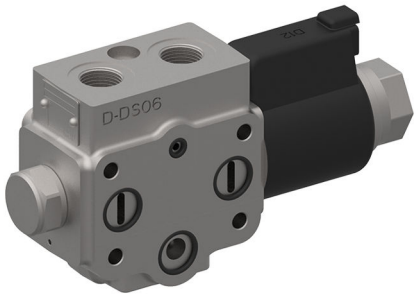




Dimension

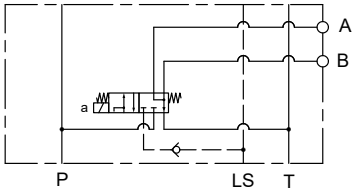


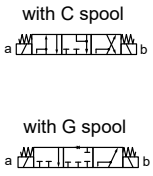
5.4 HDS06 Single Side Standard LS Section



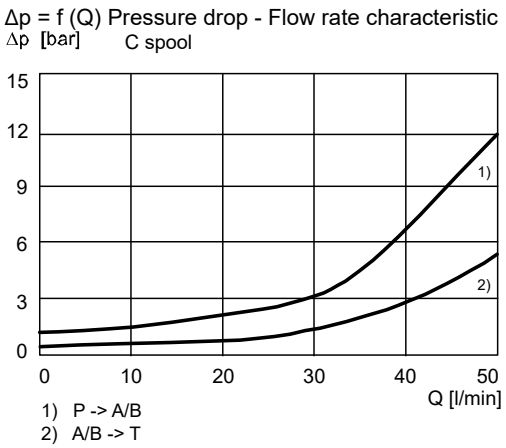
- Body Type: Short body for spool valve with single side coil
- Leakage: A-spool 16 cc/min at 100 bar and 35 cSt
- Nominal flow: 40 l/min
- Port size: A, B = 3/8" BSP

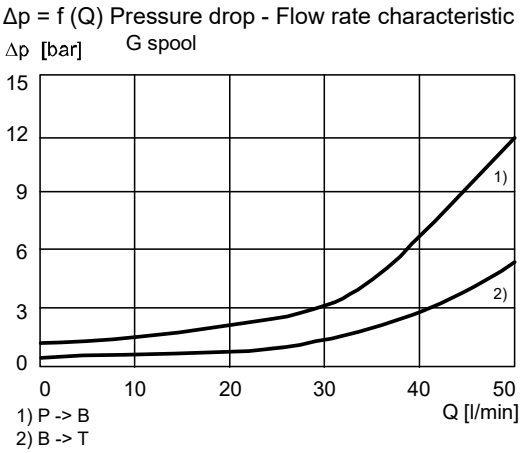
Symbol



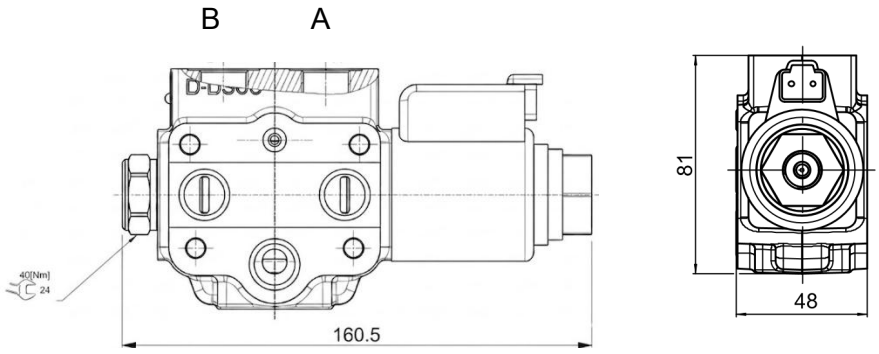


Performance Graphs





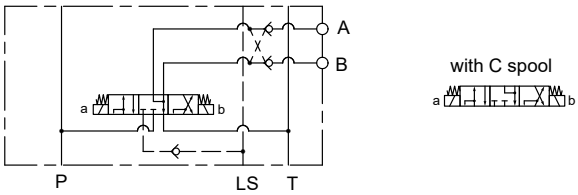
Dimension



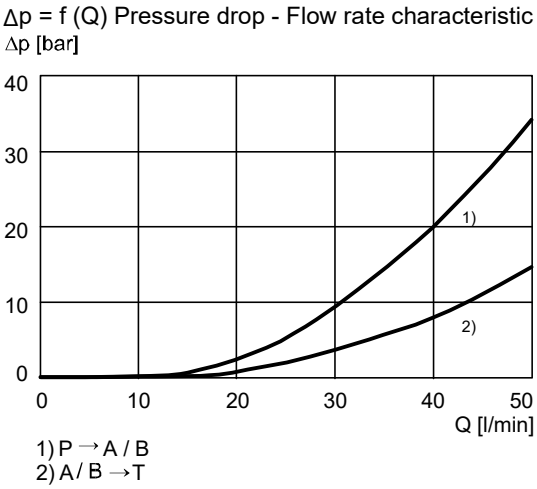
5.5 HDS06... PO Check Valve Section

- Body Type: High body with hydraulic piloted check valves
- Leakage: 1 cc/min at 100 bar and 35 cSt
- Nominal Flow: 40 l/min
- Port size: A, B = 3/8" BSP

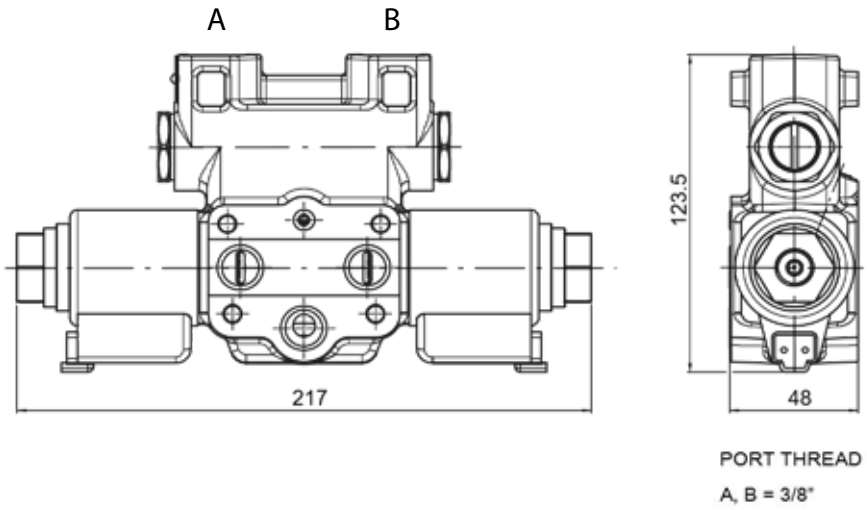
Symbol



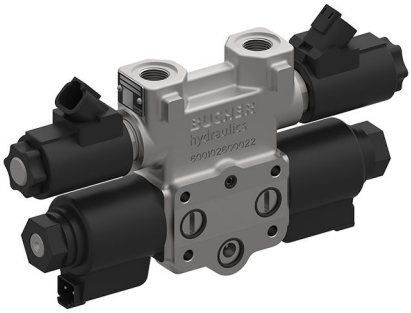
Performance Graphs



Dimension

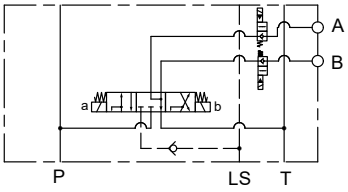


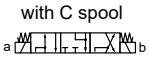
5.6 HDS06... Section with Electric Seat Valve



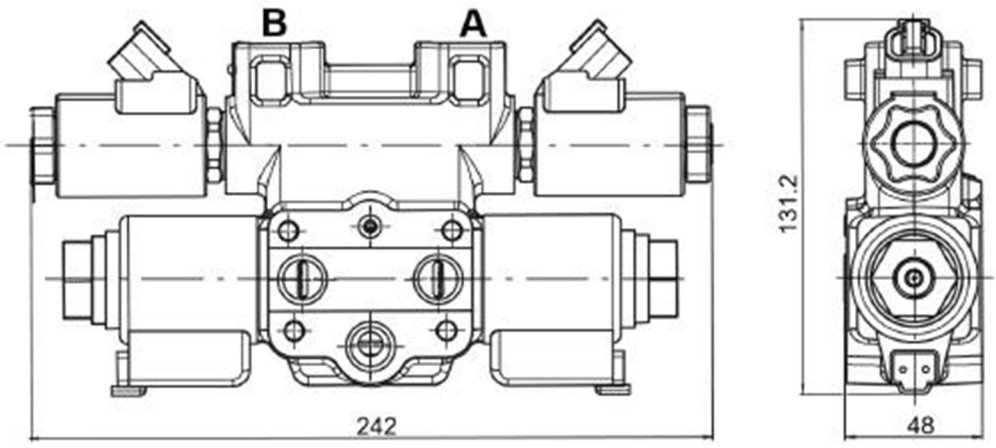
- Body Type: High body with cartridge cavity
- Leakage: 1 cc/min at 100 bar and 35 cSt
- Nominal Flow: Depending on the installed valve
- Port size: A, B = 3/8" BSP

Symbol

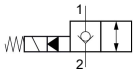
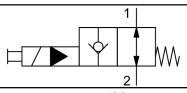
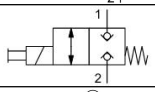
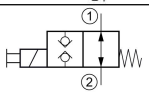




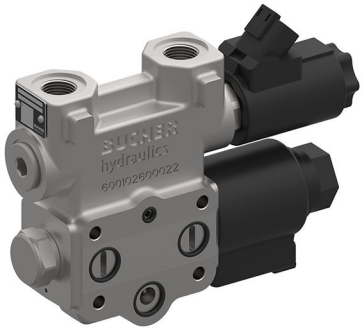
Dimension



Available with following valves

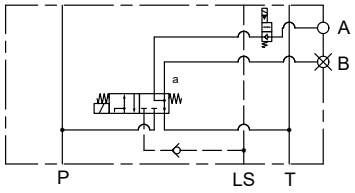
Description	Schematic	Code
Unidirectional normally closed		E22
Unidirectional normally open		E33
Bidirectional normally closed		E44
Bidirectional normally open		E99

5.7 HDS06... Section with Electric Seat Valve on one Side

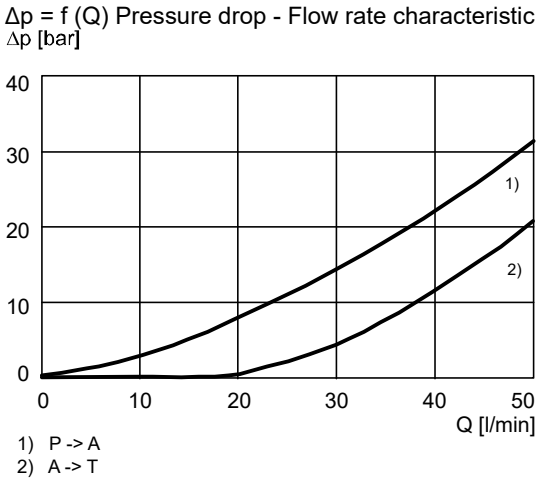


- Body Type: High body with cartridge cavity and single side coil
- Leakage: 1 cc/min at 100 bar and 35 cSt
- Nominal Flow: Depending on the installed valve
- Port size: A, B = 3/8" BSP

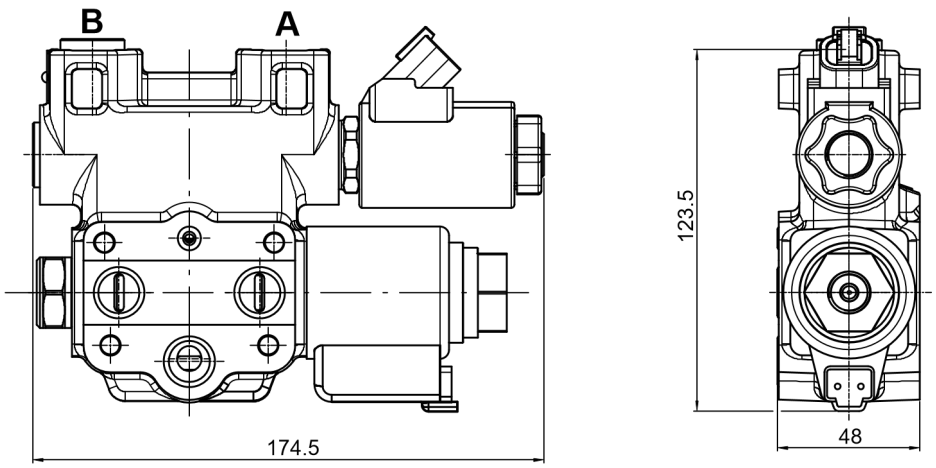
Symbol



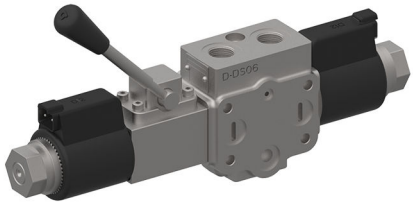
Performance Graphs



Dimension

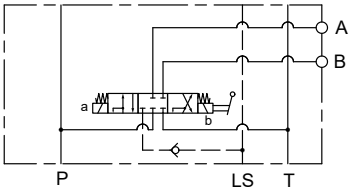


5.8 HDS06... Emergency Handlever Operation

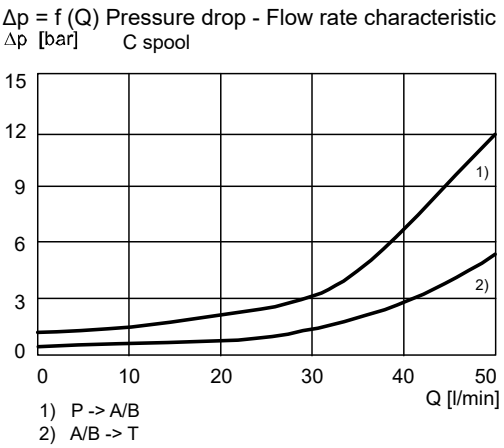


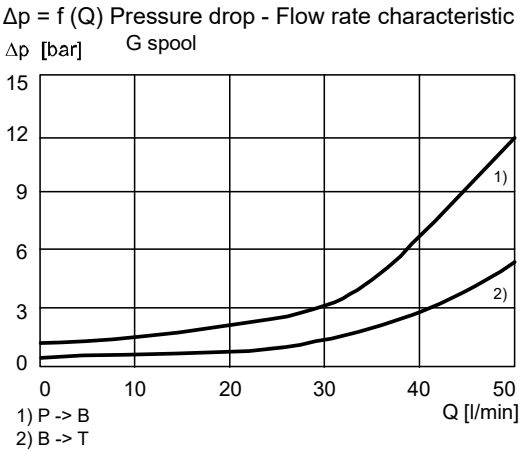
- Body Type: Short body with emergency hand lever
- Leakage: A-spool 16 cc/min at 100 bar and 35 cSt
- Nominal Flow: 40 l/min
- Port size: A, B = 3/8" BSP

Symbol

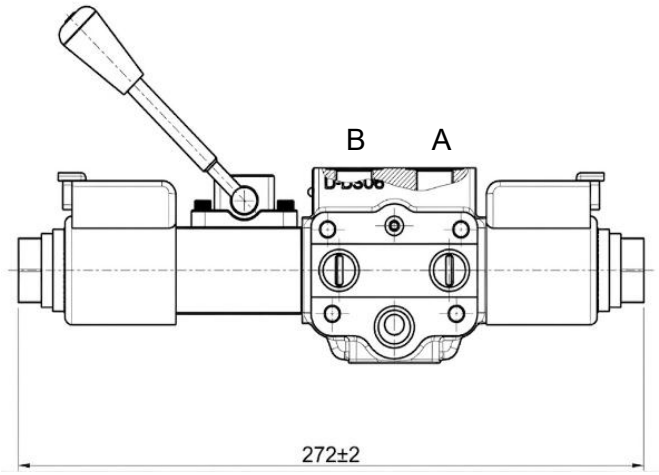


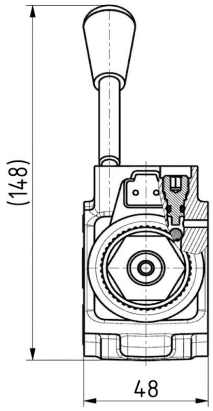
Performance Graphs



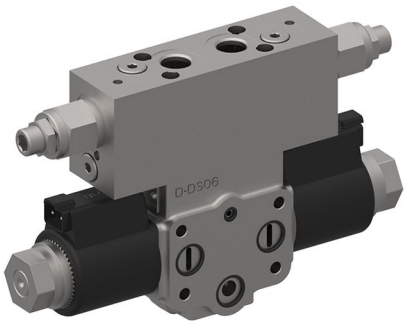


Dimension


B
A
272±2

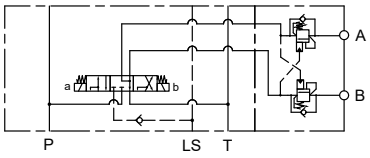

(148)
48

5.9 HDS06... Counterbalance Valves

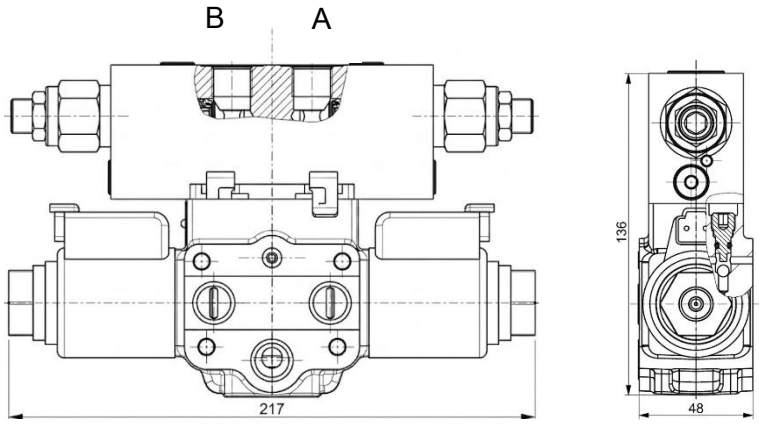


- Body Type: Short body for bolt-on sections, for counter balance valves
- Leakage: 1 cc/min at 100 bar and 35 cSt
- Nominal Flow: max. 38 l/min
- Port size: A, B = 3/8" BSP

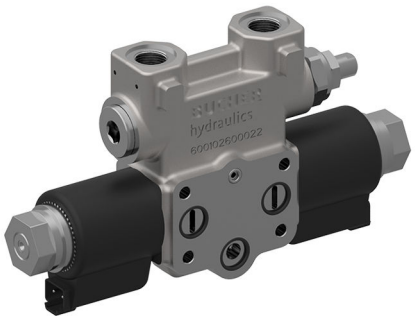
Symbol



Dimension

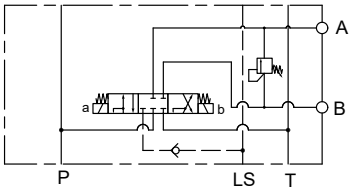


5.10 HDS06... with Cross-Port Relief Valve

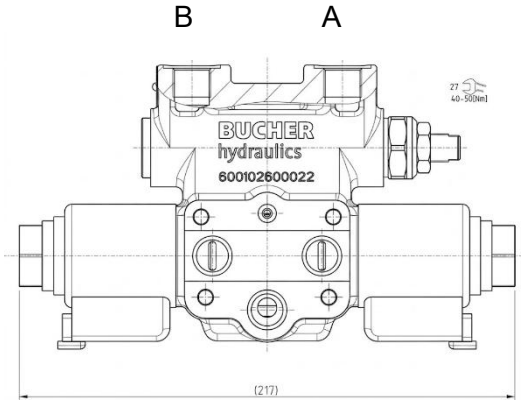


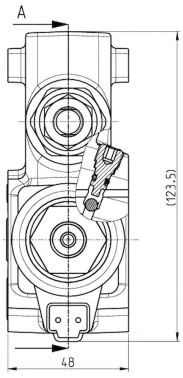
- High body with cross-port relief valve
- Leakage: A-spool 16 cc/min at 100 bar and 35 cSt
- Nominal Flow: 40 l/min
- Port size: A, B = 3/8"

Symbol



Dimension



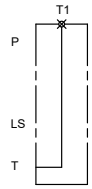
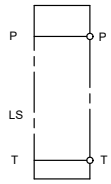


PORT THREAD

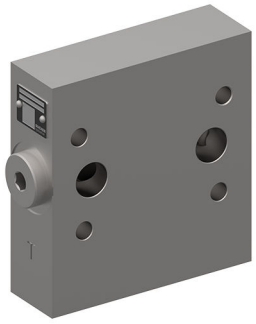
A, B = 3/8”

6 End sections

6.1 Overview End Sections

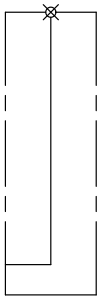
Schematic	Part number	Description
	6001021000431 DS06P21G14Z-0	Standard end section Port size: P / T = G 1/2" LS / G = G 1/4"
	600102100199 DS06P22G12Z-0	End section with P and T port Port size: P / T = G 1/2"

6.2 HDS06P21... End Section

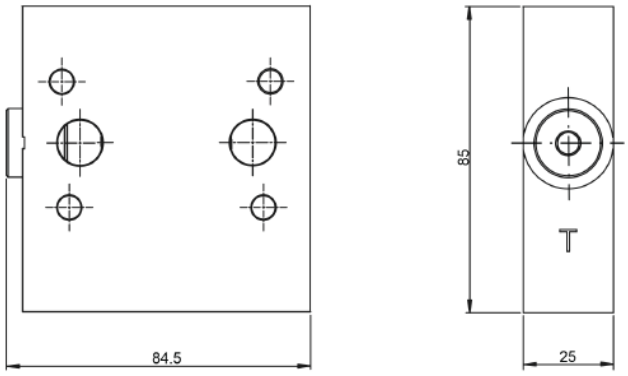


- Standard end section with T port
- Port size: LS = 1/4"BSP

Symbol



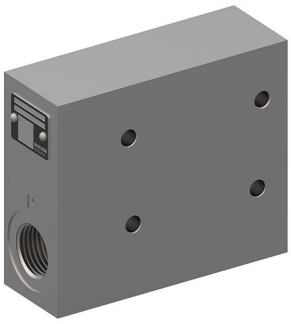
Dimension



Order Information

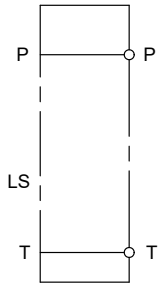
Description	Ordering Code
HDS06P21G14Z-0	600102100031

6.3 HDS06P22... End Section

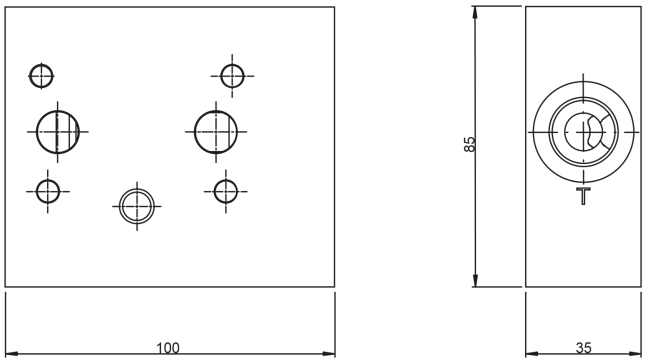


- End section with P and T port
- Port size: P, T = 1/2" BSP

Symbol



Dimension



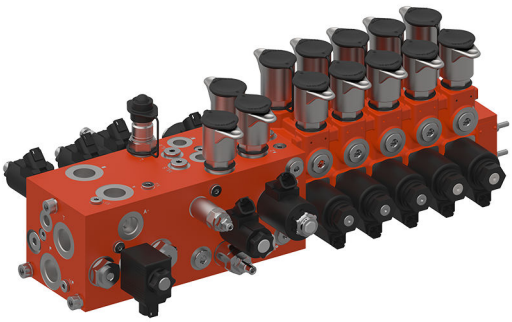
Order Information

Description	Ordering Code
HDS06P22G12Z-0	600102100199

7 Product Combinations

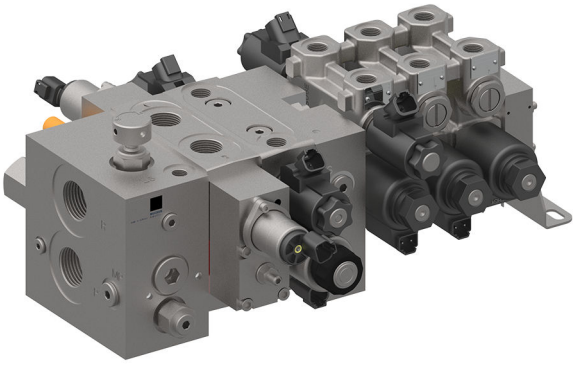
Combining the HDS06 with other Bucher Hydraulics product groups allows for a seamless blend of complex and simple machine functions. Thanks to internal LS, the system ensures optimized performance and precise control across all operations. This integrated approach significantly reduces costs and minimizes required assembly time. Furthermore, the compact design saves valuable installation space within the machine.
The system can be configured using standard LVS08/12 and L.8S sections or combined with custom-engineered HIC aluminum blocks, developed through collaborative project planning. This flexibility ensures a perfectly tailored solution for your specific application.
For any inquiries or project support, please feel free to contact us at any time.

7.1 HIC and HDS06



- High Power Density: Supports a full range of flow up to 400 lpm and operating pressures reaching the HDS06 limit of 320 bar.
- Reduced Energy Consumption: Features optimized internal designs to minimize pressure losses, enhancing the overall efficiency of the hydraulic circuit.
- System Synergy: Designed for seamless integration with the full portfolio of BH cartridge valves to ensure perfect performance across applications.
- Installation Versatility: Allows for individual positioning of the ports, ensuring the best possible assembly for specific machine layouts.
- Lightweight Design: The combination with aluminum components leads to lower weight and easier handling during assembly.

7.2 LVS08/12 and HDS06



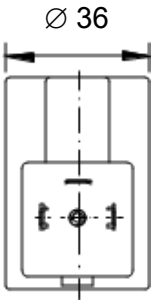
- Scalable Sectional Solutions: The LVS sections can be added to integrate high-flow functions (up to 200 lpm) into the same control block.
- Maximum Energy Efficiency: Both series are engineered for low internal pressure drops. This combination minimizes power losses
- Space-Saving Integration: The modular architecture allows for the configuration of highly compact valve manifolds tailored exactly to the machine's needs.

8 Additions

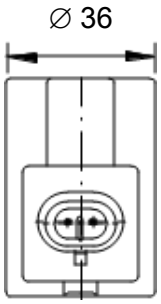
8.1 Connections

Solenoid Coil d= 36 mm

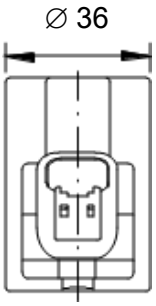
Order code H



Order code I

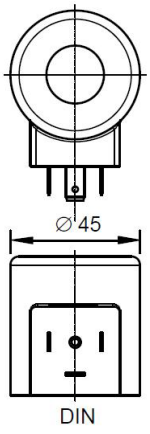


Order code D

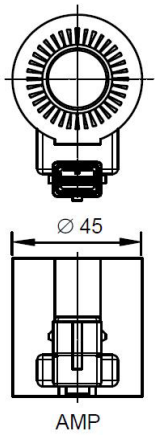


Solenoid Coil d= 45 mm

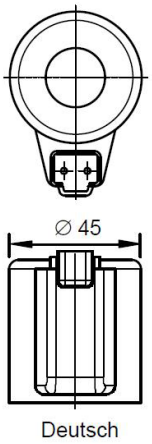
Order code H



Order code I



Order code D



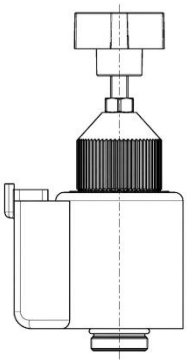
8.2 Sealing

One sealing kit is for one section or inlet section

Type	Description	Part Number
Inlet Section	Inlet Seal Kit HDS06	600918200035
Section	El. Seal Kit HDS06	600918200034

8.3 Manual Override

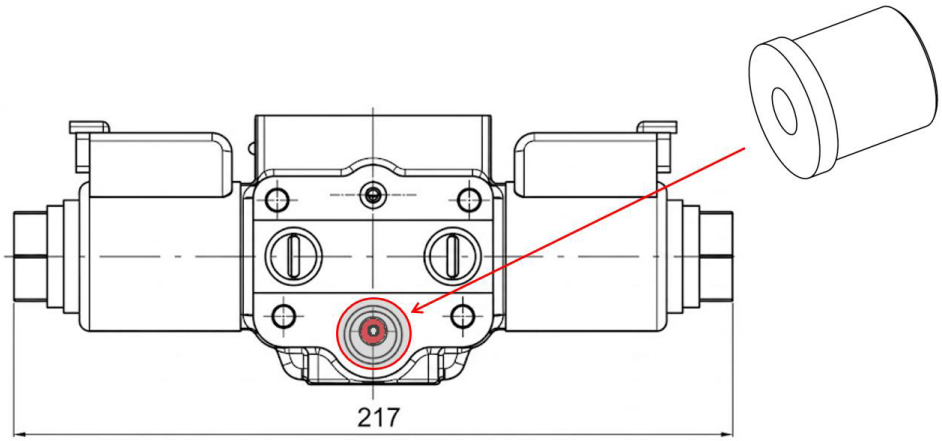
If a manual override is needed with detent, we offer a solution which is shown in the picture. It can also be used like a stroke limitation.



Description	Order Number
HDS06 MO ASSEMBLY	600102100123

8.4 Flow Limiter

To limit the flow rate in downstream sections, we offer insert orifice for the P-channel. These can be integrated into the block configuration as standard.



Description	Order Number
Restrictor Ø9.5 x 9.5 M4	130200603
Restrictor Ø9.5 x 9.5 Ø2	130200604
Restrictor Ø9.5 x 9.5 Ø2.5	130200633

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