

ENGINEERING
TOMORROW

Danfoss

Technical Information

Directional Control Valve

DVG 60 and DVG 100



Revision history

Table of revisions

Date	Changed	Rev
June 2024	First edition	0101

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DVG 60 basic dimensions

DVG 100 basic dimensions

DVG specification examples

General Information

Flexibility of design

The Danfoss directional control valves are designed to give customers flexibility over a broad range of flow and pressure capabilities. The DVG valve design is based on a modular concept that enables machine designers to specify a valve solution suitable for multiple market segments across multiple applications.

Actuator options include a range of levers, cable actuators, hydraulic and pneumatic pilot controls, and electrohydraulic proportional solenoids. Flow rates range from 0 to 100 L/min [26 US gal/min].

Circuit options

- Parallel circuits
- Tandem circuits
- Series circuits

Capability

Flow rates from 0 to 100 L/min [26 US gal/min]

System pressure up to 330 bar

Up to 12 work sections

10 cm³/min [0.7 in³/min] internal leakage (work port to tank)

Actuation options

- Handles and levers
- Spool ends
- Electrohydraulic Operation Control (EHO) proportional and on/off solenoid
- Pneumatic and Electropneumatic pilot control

Synergy

Modular concept and nomenclature

Same PVG 32 tie rod pattern for DVG 60 and DVG 100 sizes, making it easy to stack together

PLUS+1 ready

Same inlet and outlet modules for DVG 60 and DVG 100

Warning

All makes/brands and types of directional control valves can fail and cause serious damage. It is therefore important to analyze all aspects of the application.

Because the hydraulic valves are used in many different operation conditions and applications, the manufacturer of the application is alone responsible for making the final selection of the products – and assuring that all performance, safety, and warning requirements of the application are met.

The process of choosing the control system – and safety levels – is governed by the machine directives EN 13849 (safety related requirements for control systems).

General Information

Safety in systems

All makes and all types of control valves can fail, thus the necessary protection against the serious consequences of function failure should always be built into the system. For each application an assessment should be made for the consequences of pressure failure and uncontrolled or blocked movements.

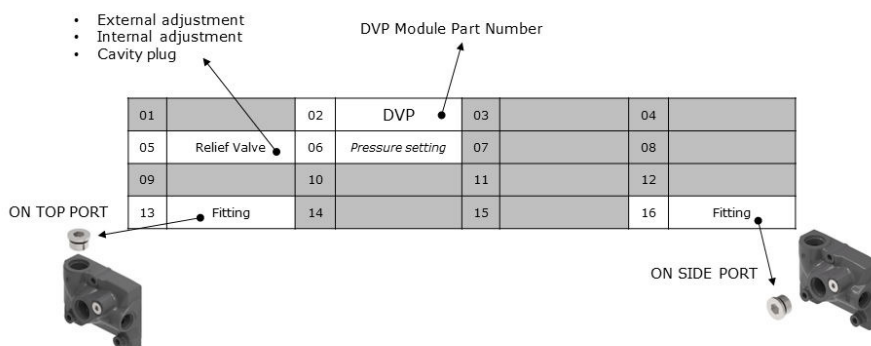
How to use this catalog

In this catalog you will find all technical data related to DVG 60 and DVG 100, as well as information on how to properly use and configure a stack valve.

To configure a stack valve is necessary to fill the data sheet or use the SVS Product Configurator. The data sheet was created to facilitate valve configuration (see page 53).

For each slice in stack there are 16 fields that can be filled with a module part number. Each type of module has its placement rule.

For an inlet specification, it is necessary to define inlet module, work port plug positioning, and relief valve. This picture explains which fields are used to configure an inlet slice.



Using a module's part number, an example inlet module can be configured as follows:

01		02	11297448	03		04	
05	11336537	06	250	07		08	
09		10		11		12	
13	11335679	14		15		16	1335679

This specification is related to an inlet module for a solenoid actuated valve, with an external adjustment relief valve set at 250 bar and a plug on the top inlet port (Field [13]). Field [16] is left because it is an open side inlet port.

Beside each module section title, there is a number in brackets indicating the field number the module part number applies to.

General Information

DVG 60 and DVG 100 technical data

Maximum pressure	Ports P, A/B continuous	310 bar	[4500 PSI]
	Port P intermittent	310 bar	[4500 PSI]
	Ports A/B intermittent	330 bar	[4785 PSI]
Oil flow rated	DVG60 – Port P, A/B	60 L/min	[15.8 US gal/min]
	DVG100 – Port P, A/B	100 L/min	[26.4 US gal/min]
Spool travel, standard		± 7 mm	[± 0.28 in]
Spool travel, float position	Proportional range	± 5.0 mm	[± 0.20 in]
	Float position	+ 10 mm	[+ 0.39 in]
Maximum internal leakage at 100 bar [1450 PSI] and 32 mm²/s	A/B → T, DVB without PVLP	10 cm ³ /min	[0.61 in ³ /min]
	A/B → T, DVB with PVLP	15 cm ³ /min	[0.92 in ³ /min]

DVG 60 and DVG 100 circuit options

DVG valves offer a variety of circuit types and allow combinations of various circuits in the same stack.

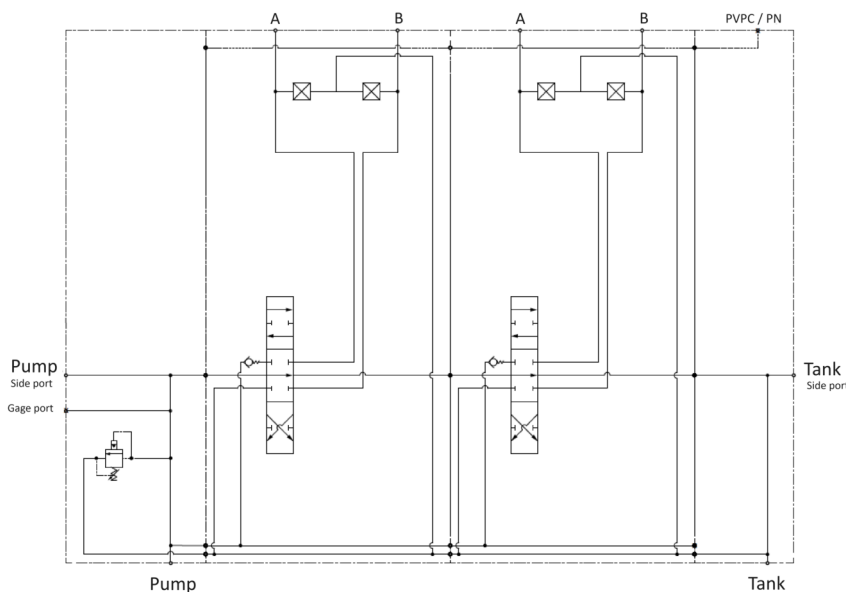
As a general rule, use tandem slices in most upstream position and then series followed by parallel slices.

DVG valves offer parallel, tandem, and series circuits in the portfolio. Combining them in the same stack is possible.

In a sequence of series or tandem slices, the last one must be a tandem slice to work as transition slice. This last tandem slice is required to connect by-pass with pressure channel downstream. This tandem slice does not work as priority function and behave as a parallel work section.

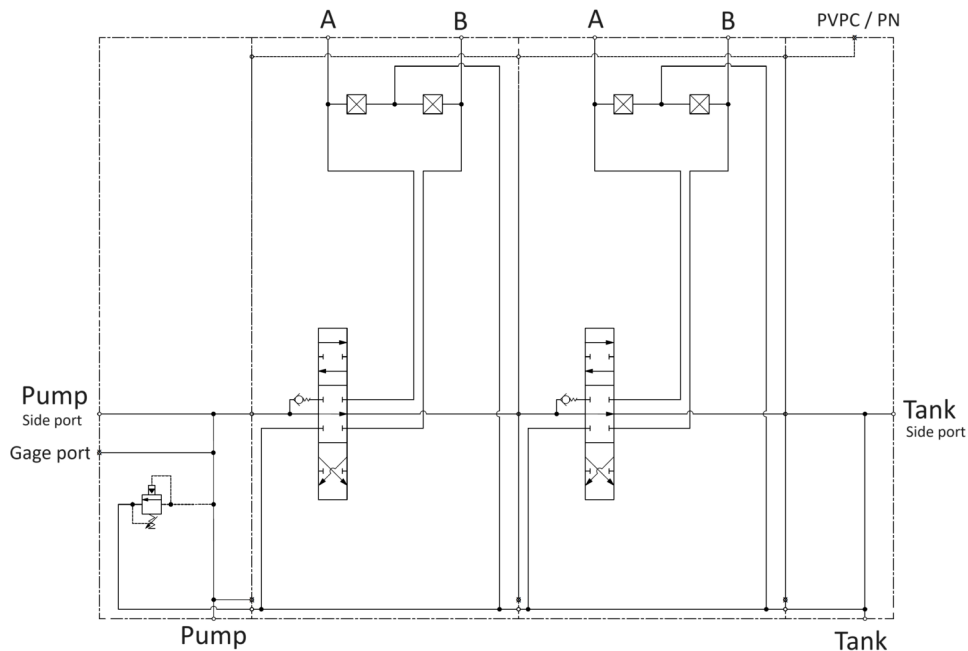
Tandem bodies work with parallel standard spools and series bodies require series spools.

Parallel circuit - when two or more sections operate simultaneously, flow favors the lowest pressure

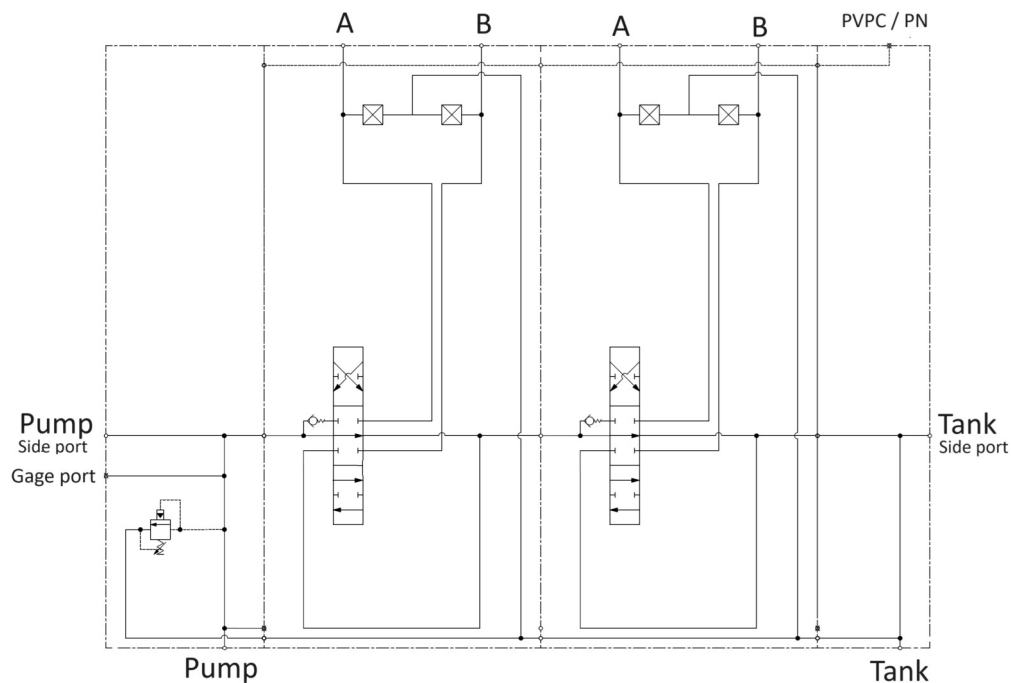


General Information

Tandem circuit (priority) - when two or more sections operate simultaneously, only the section closest to the inlet receives flow



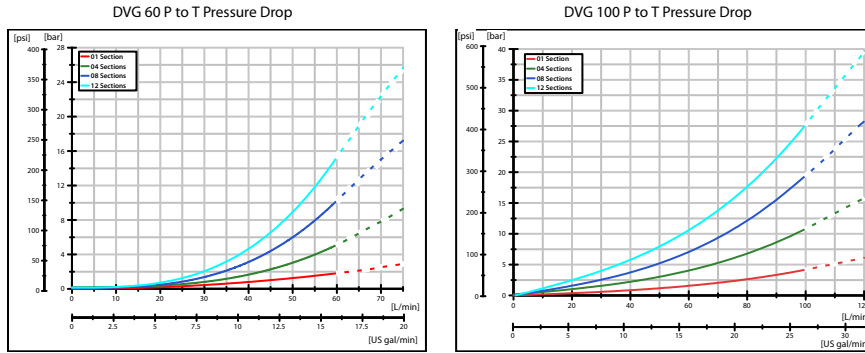
Series circuit - when two or more sections operate simultaneously, the section closest to the inlet receives flow. Return flow feeds the sections downstream



General Information

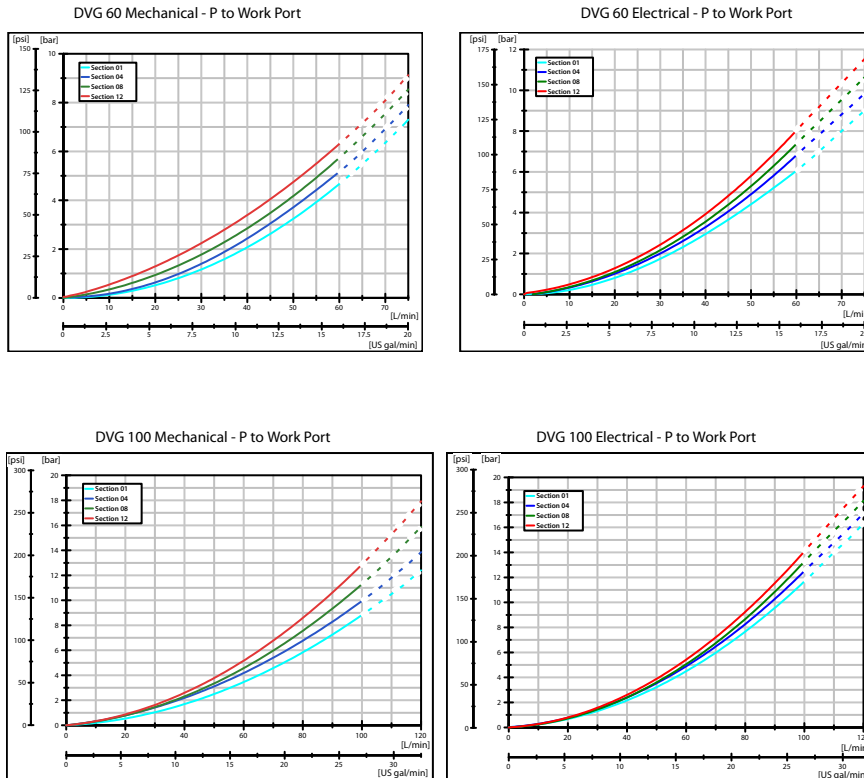
DVG 60 and DVG 100 typical performance

Valve Performance - Parallel, Tandem, and Series Circuit (Mechanical and Solenoid actuated)



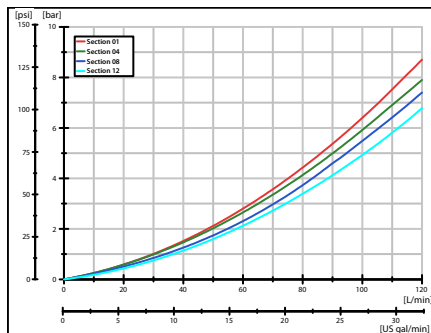
Based on oil temperature of 45°-50°C [113° - 122°F]. Viscosity 32 mm²/sec (cSt).

Valve Performance - Parallel Circuit

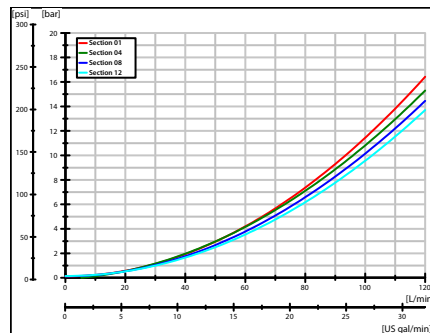


General Information

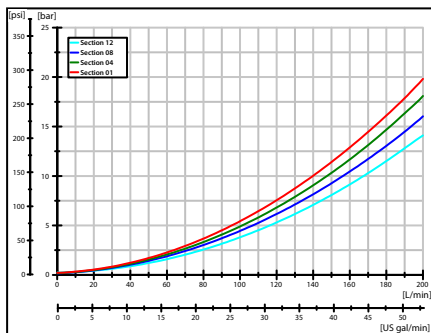
DVG 60 Mechanical - Work Port to T



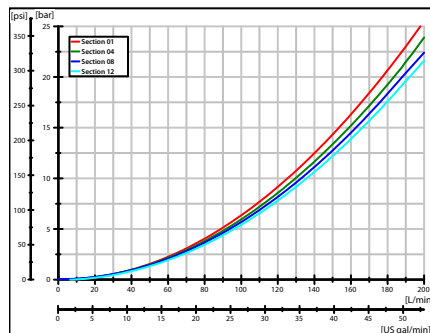
DVG 60 Electrical - Work Port to T



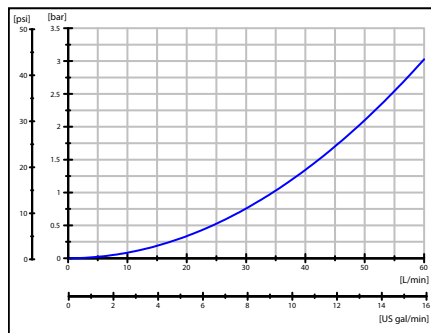
DVG 100 Mechanical - Work Port to T



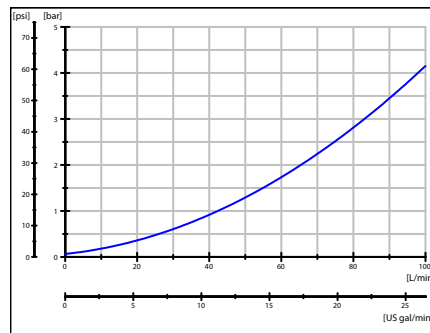
DVG 100 Electrical - Work Port to T



DVG 60 - A/B to T at Float Position

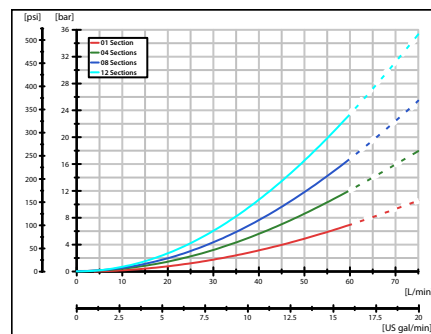


DVG 100 - A/B to T at Float Position

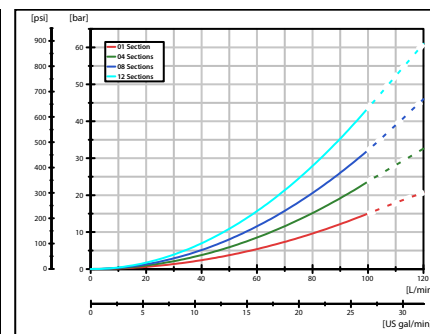


Valve Performance - Series Circuit

DVG 60 - P to Work Port Pressure Drop

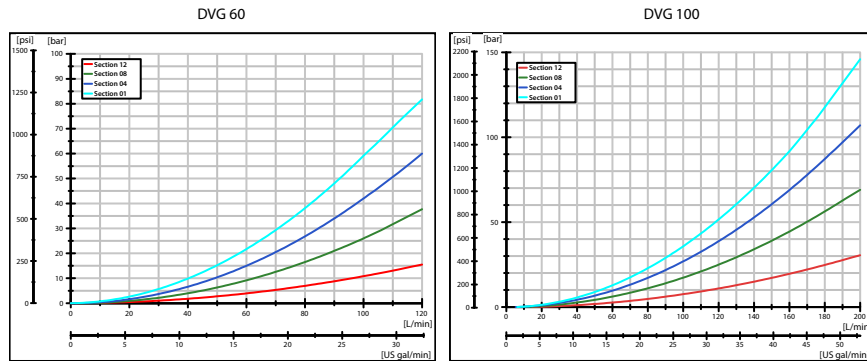


DVG 100 - P to Work Port Pressure Drop



General Information

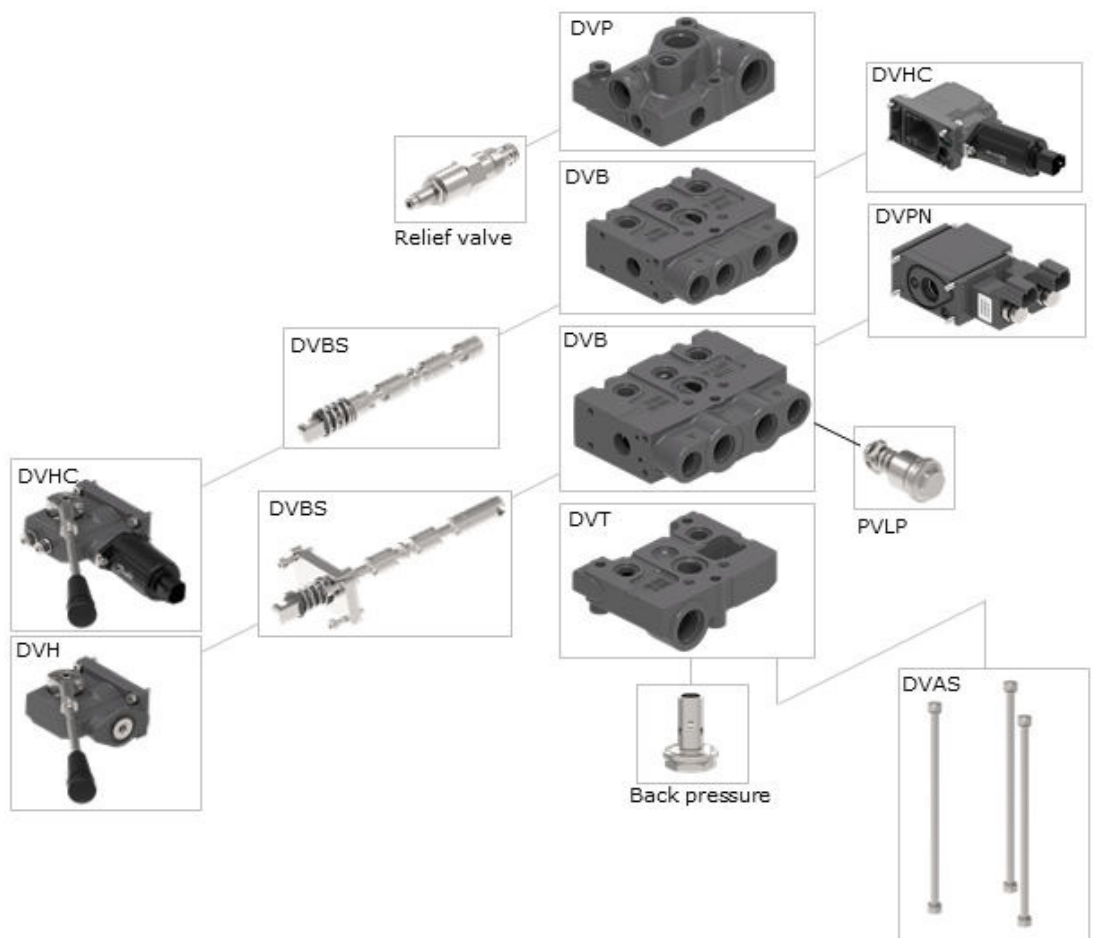
A/B to T Pressure Drop - Mechanical and electric actuation



Based on oil temperature of 45°-50°C [113° - 122°F]. Viscosity 32 mm²/sec (cSt).

DVG 60 and DVG 100 modules overview

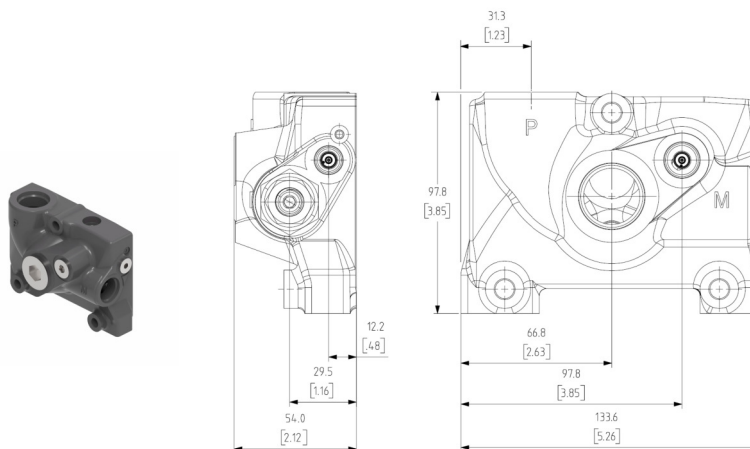
DVP - DVG 60 and DVG 100 Inlet modules [2]



DVP - DVG 60 and DVG 100 Inlet modules [2]

DVG 60 and DVG 100 inlet module overview

The DVG series valve inlet modules DVP, also referred to as pump side modules, act as an interface between the valve stack and the hydraulic pump. The DVP modules have one size that fits with both DVG 60 and DVG 100 slices. Variants include main full flow relief valve and PPRV pilot pressure control valve when using solenoid actuated work modules.



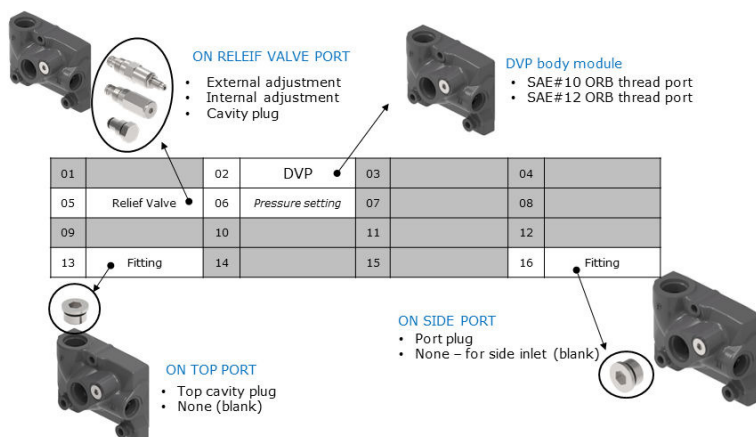
Weight: 2.4 kg [5.2 lb]

The DVP inlet module variants are based on a generic platform with a selection of additional features, enabling you to tailor the DVP to suit the required demands.

How to configure

To configure a stack as a modular valve, all modules and parts must be selected correctly. Danfoss provides a Variant Configurator system to assist in valve configuration. The configurator uses the valve data sheet model and the modules must be placed in the correct field.

Example of the available fields to configure a DVP in a stack valve



DVP - DVG 60 and DVG 100 Inlet modules [2]

DVP operation limits

Max. P-port continuous	Max. P-port intermittent	Max. rated flow
310 bar [4500 PSI]	310 bar [4500 PSI]	100 L/min [26.4 US gal/min]

DVP technical specification

Parameter	Minimum	Recommended Range	Maximum
Fluid temperature	-30°C [-22°F]	30 to 60°C [86° to 140°F]	90°C [194°F]
Fluid viscosity	4mm ² /s [39 SUS]	12 to 75 mm ² /s [65 to 347 SUS]	460 mm ² /s [2128 SUS]
Fluid cleanliness (mechanical activation)	23/19/16 (according to ISO 4406)		
Fluid cleanliness (solenoid activation)	18/16/13 (according to ISO 4406)		
Operating temperature	Ambient: -30° to 60°C [-22° to 140°F]		

Open Center DVP without PPRV (for mechanical only valves)

Open Center DVP with PPRV (for electro-hydraulic actuated valves or mixed electric and mechanical valves)

Main full flow relief valve and accessories

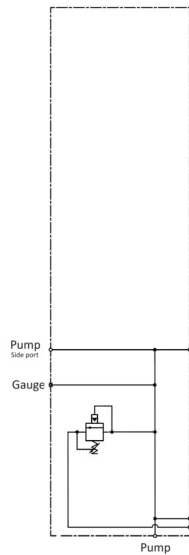
Open center DVP without PPRV

The basic Open Center DVP inlet module is intended for use with fixed displacement pumps in applications where a valve group with mechanically controlled work sections is desired.

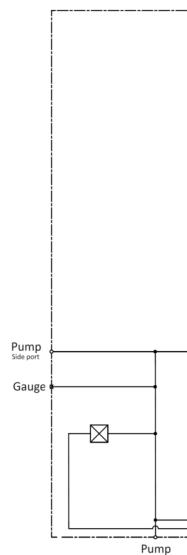
The Open Center DVP features:

- One size fit with both DVG 60 and DVG 100 slices
- Top and side threaded inlet ports
- Gage threaded port
- Full flow main relief valve with external adjustment (internal adjustment also available)
- Relief valve cavity plug for no main relief option

Open center DVP without PPRV
with Relief Valve



Open center DVP without PPRV
without Relief Valve



DVP - DVG 60 and DVG 100 Inlet modules [2]

DVP Modules are the base part to configure the complete inlet slice. A DVP module is assembled without relief valve or cavity plug, and the relief valve in required pressure setting must be selected beside DVP module.

DVP - Part numbers for open center DVP without PPRV modules (for mechanical valves)

Part Numbers	P-port	M-port	Mounting
11297445	7/8-14 UNF	9/16-18 UNF	M8
11297450	1 1/16-12 UNF	9/16-18 UNF	M8

Open center DVP with PPRV

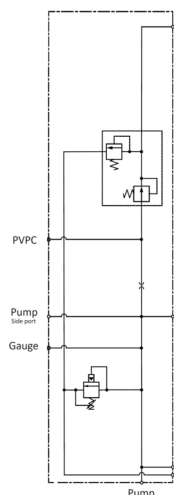
The basic Open Center DVP inlet module is intended for use with fixed displacement pumps in applications where a valve group with solenoid-controlled work sections is desired.

The Open Center DVP features:

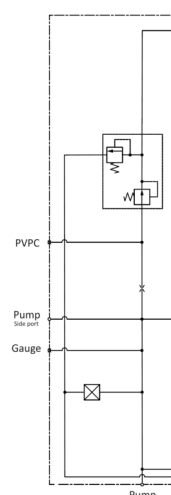
- One size fit with both DVG 60 and DVG 100 slices
- Top and side threaded inlet ports
- Integrated PPRV pilot pressure reducer valve to supply electro-hydraulic actuators
- Gage threaded port
- Full flow main relief valve with external adjustment (internal adjustment also available)
- Relief valve cavity plug for no main relief option
- Internal or external pilot pressure can be used

The DVP modules are assembled and supplied for internal pilot pressure. To change to external pilot pressure, please refer to the DVG Parts and Service Manual.

Open center DVP with PPRV
with Relief Valve



Open center DVP with PPRV
without Relief Valve



DVP Modules are the base part to configure the complete inlet slice. A DVP module is assembled without relief valve or cavity plug, and the relief valve in required pressure setting must be selected beside DVP module.

DVP - DVG 60 and DVG 100 Inlet modules [2]

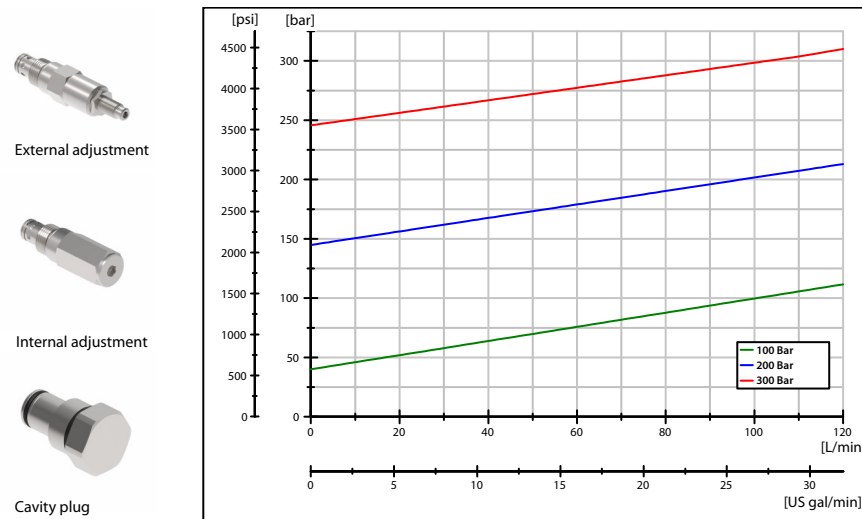
DVP - Part numbers for open center DVP with PPRV modules (for solenoid operated valves)

Part Numbers	P-port	M-port	Mounting
11297448	7/8-14 UNF	9/16-18 UNF	M8
11297463	1 1/16-12 UNF	9/16-18 UNF	M8

Main relief valve [5]

The main relief valve is a full-flow pilot operated relief valve that offers good behavior and security to the hydraulic system. It is available with an external and internal adjustment.

Main relief valve pressure characteristics



Part numbers for inlet relief valve options

Part Numbers	Description	Adjustment Range
11336548	Main relief valve – internal adjustment	17 to 240 bar (250 to 3500 PSI)
11336535	Main relief valve – external adjustment	17 to 240 bar (250 to 3500 PSI)
11336536	Main relief valve – internal adjustment	35 to 350 bar (500 to 5000 PSI)
11336537	Main relief valve – external adjustment	35 to 350 bar (500 to 5000 PSI)
11154281	Main relief valve cavity plug	

Inlet module accessories

DVP - Inlet accessories

Part Numbers	Valve Size	Description	Thread
11335679	60 and 100	SAE#10 cavity plug	7/8-14 UNF
11306248	60 and 100	SAE#12 cavity plug	1 1/16-12 UNF

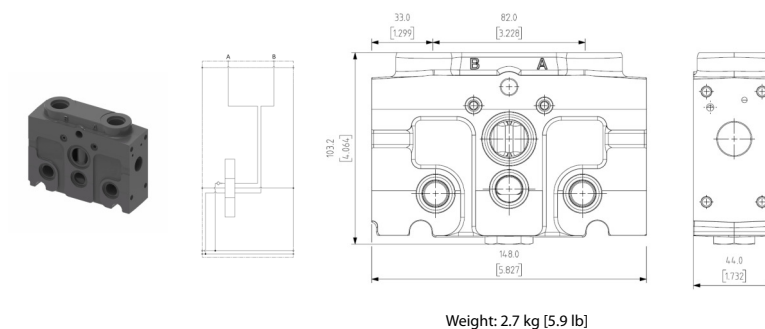
DVB Basic Modules

DVB Work section bodies

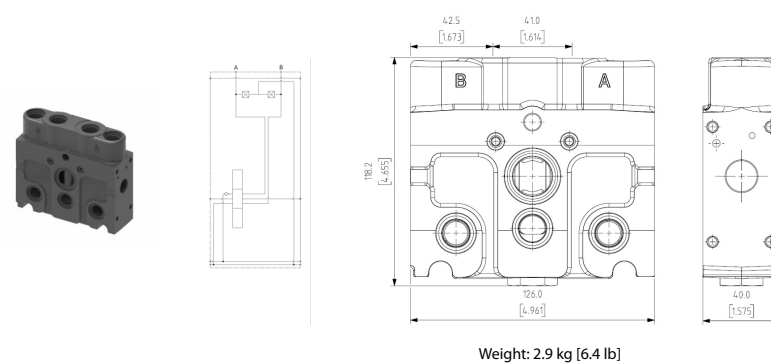
The DVB 60 and DVB 100 basic modules, also referred to as work sections, are the interface between the DVG valve group and the work function such as a cylinder or motor.

The DVB modules are available for DVG 60 and DVG 100 in two versions: low body without accessory valves and high body with PVLP shock valves facility.

DVB 60 Low body

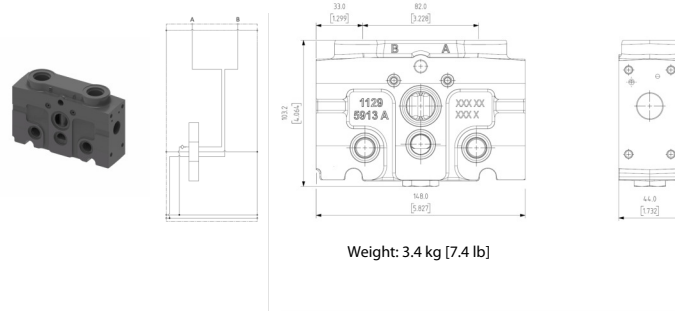


DVB 60 High body with PVLP

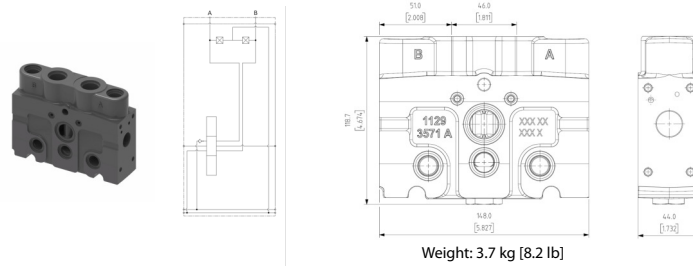


DVB Basic Modules

DVB 100 Low body



DVB 100 High body with PVLP



DVB Operation limits

Max. continuous pressure	Max. work port pressure	Max. DVB 60 rated flow	Max. DVB 100 rated flow
310 bar [4500 PSI]	330 bar [4785 PSI]	60 L/min [15.8 US gal/min]	100 L/min [26.4 US gal/min]

How to configure

To configure a stack as a modular valve, all modules and parts must be selected correctly. Danfoss provides a Variant Configurator system to assist in valve configuration. The configurator uses the valve data sheet model and the modules must be placed in the correct field.

The DVB material number is put in field [2]. To completely specify a slice, it is also necessary to define the following items:

- Actuator or cap for sides A and B (fields [1] and [4])
- Spool module (field [3])
- Accessory valve (like PVLP) on sides A and B (fields [5] and [8])
- PVLP setting (when using adjustable PVLP) for side A and B (fields [6] and [7])
- Cavity plug on work ports A and B (field [13] on port A and field [16] on port B)

01	Act / cap	02	DVB	03	DVBS	04	Act / cap
05	PVLP or PVLA	06	Setting	07	Setting	08	PVLP or PVLA
09		10		11		12	
13	Fitting	14		15		16	Fitting

[DVB module for mechanical operation](#)

[DVB module for solenoid operation](#)

DVB Basic Modules

PVLP shock valve

DVB module for mechanical operation

The basic mechanical DVB module is intended for controlling a work function where only manual operation is required.

The DVB mechanical module features are:

- Available in parallel, series, and tandem circuits
- Integrated load check valve
- Allows mechanical operations like handle, robust handle and cable
- Standard body allows use of three and four position spools (except for series circuit)
- For series circuit, float spools are available only on DVG 100 without PVLP facility
- DVB 60 and DVB 100 modules can be stacked together without special interface
- Mechanical DVB modules can be stacked together with electro-hydraulic modules

DVB 60 basic modules for mechanical operation

Part Numbers	A/B-port	Circuit type	PVLP facility	Float ¹	Regenerative ²
11298172	3/4-16 UNF	Parallel	-	Yes	Yes
11298154	3/4-16 UNF	Parallel	Yes	Yes	Yes
11298156	3/4-16 UNF	Tandem	Yes	Yes	Yes
11298163	3/4-16 UNF	Series	Yes	-	-

¹ Needs to be paired with float spool

² Needs to be paired with regenerative spool

DVB 100 basic modules for mechanical operation

Part Numbers	A/B-port	Circuit type	PVLP facility	Float ¹	Regenerative ²
11298449	7/8-14 UNF	Parallel	-	Yes	Yes
11298450	7/8-14 UNF	Parallel	Yes	Yes	Yes
11298466	7/8-14 UNF	Tandem	Yes	Yes	Yes
11298467	7/8-14 UNF	Series	Yes	-	-
11301988 ³	7/8-14 UNF	Series	-	Yes	-

¹ Needs to be paired with float spool

² Needs to be paired with regenerative spool

³ Special body for float spool

DVB module for solenoid operation

The basic solenoid DVB module is intended for controlling a work function where solenoid, hydraulic or pneumatic actuation is required.

The DVB solenoid module features are:

- Available in parallel, series and tandem circuits
- Integrated load check valve
- DVB mechanical, with open spool, to be actuated by handle and cable
- DVB electrical to be actuated by solenoid, hydraulic, and pneumatic
- Standard body allows use of three and four position spools (except for series circuit)

DVB Basic Modules

- For series circuit, float spools are available only on DVG 100 without PVLP facility
- DVB 60 and DVB 100 modules can be stacked together without a special interface
- Solenoid DVB modules can be stacked together with mechanical modules

It is not possible to combine pneumatic and electro-hydraulic actuations in the same stack.

DVB 60 - Basic modules for solenoid operation

Part Numbers	A/B-port	Circuit type	PVLP facility	Float ¹	Regenerative ²
11298440	3/4-16 UNF	Parallel	-	Yes	Yes
11298441	3/4-16 UNF	Parallel	Yes	Yes	Yes
11298427	3/4-16 UNF	Tandem	Yes	Yes	Yes
11298428	3/4-16 UNF	Series	Yes	-	-

¹ Needs to be paired with float spool

² Needs to be paired with regenerative spool

DVB 100 - Basic modules for solenoid operation

Part Numbers	A/B-port	Circuit type	PVLP facility	Float ¹	Regenerative ²
11298487	7/8-14 UNF	Parallel	-	Yes	Yes
11298488	7/8-14 UNF	Parallel	Yes	Yes	Yes
11298460	7/8-14 UNF	Tandem	Yes	Yes	Yes
11298461	7/8-14 UNF	Series	Yes	-	-
11302117 ³	7/8-14 UNF	Series	-	Yes	-

¹ Needs to be paired with float spool

² Needs to be paired with regenerative spool

³ Special body for float spool

PVLP anti-shock/cavitation valve

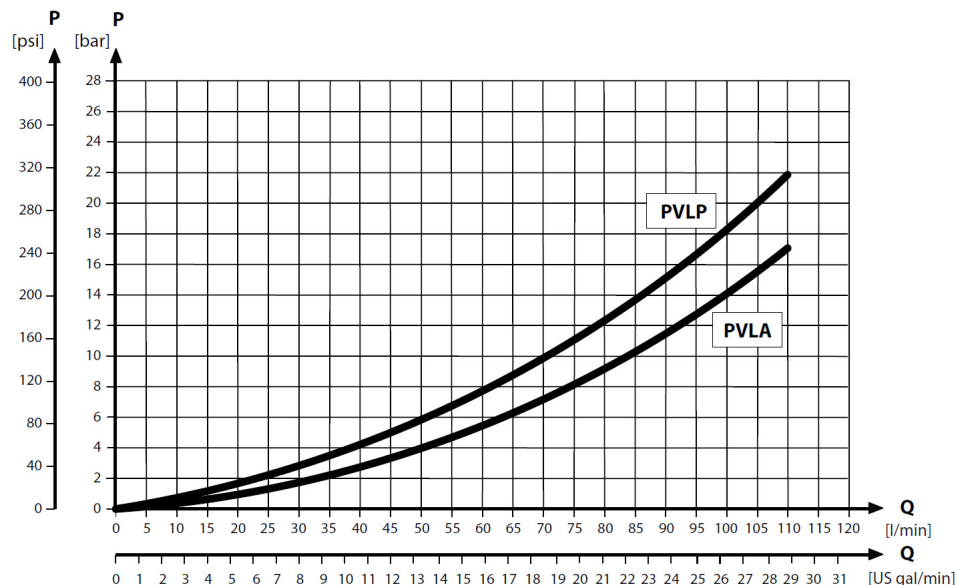
The PVLP will relieve a pressure peak to the internal tank galleries and will suck oil from the tank to the work port to prevent cavitation. Pressure settings range from 32 to 320 bar [460 to 4641 PSI].

Features:

- Shock valve
- Anti-cavitation
- Lifetime of 200,000 actuations
- Optional fixed or adjustable



DVB Basic Modules



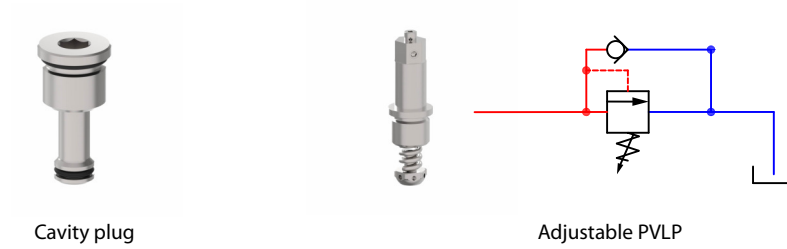
PVLP fixed setting

Part number	Pressure setting bar [PSI]
157B2032	32 [460]
157B2050	50 [725]
157B2063	63 [914]
157B2080	80 [1160]
157B2100	100 [1450]
157B2125	125 [1813]
157B2140	140 [2031]
157B2150	150 [2175]
157B2160	160 [2320]
157B2175	175 [2538]
157B2190	190 [2755]
157B2210	210 [3045]
157B2230	230 [3335]
157B2240	240 [3480]
157B2250	250 [3625]
157B2265	265 [3845]
157B2280	280 [4061]
157B2300	300 [4351]
157B2320	320 [4641]

DVB Basic Modules

Adjustable PVLP

PVLP adjustable setting



Part number	Pressure setting in bar [PSI]
11006594	121 to 250 [1755 to 3626]
11006595	251 to 285 [3640 to 4134]

PVLA and cavity plug

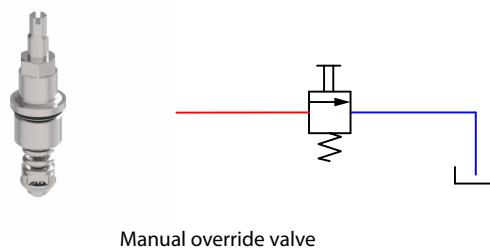
PVLA and cavity plug

Part number	Description
157B2001	Anti-cavitation valve
11177714	Cavity plug

Manual override - dead engine valve

Dead Engine needle valve - manual override

Part number	Description
11317983	Dead engine needle valve



The dead engine valve allows the user to manually open the work port to the tank, allowing for gravity lowering when the pump is disabled, or when the valve spool cannot be manually operated. The needle valve has no automatic relief function.

DVB Basic Modules

Work port cavity plug

Work port cavity plug is mainly used when the work section has a three-way spool.

DVB - Work port cavity plugs

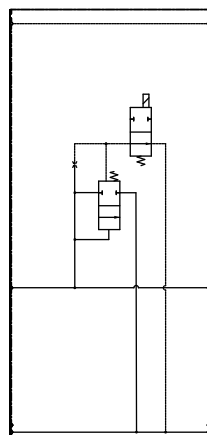
Part Numbers	Valve Size	Description	Thread
11335696	60	SAE#8 cavity plug	3/4-16 UNF
11335679	100	SAE#10 cavity plug	7/8-14 UNF

DVB full flow dump module

DVB full flow dump module overview

The DVB full flow module is a special module. When the DVB full flow module is added to a valve stack, it allows the valve stack to electronically reduce inlet pressure to less than 5 bar (plus return line pressure drop). It is very useful in solenoid stacks with pressure build up valve at outlet to reduce standby inlet pressure, reducing total heating and fuel consumption.

The solenoid cartridge is Normally Open. When not energized, the full flow dump module (FFD) diverges all inlet flow to the tank, the inlet pressure is reduced, and the electro-hydraulic actuator does not operate due lower pilot pressure. When the solenoid is energized, the tank passage is blocked and inlet pressure rises, allowing electro-hydraulic actuators to work properly.



DVB full flow dump module

How to configure

Below the available fields to configure a DVB full flow dump module in a stack valve.

The DVB FFD material number is put in field [2]. To complete a slice, it is also necessary to define Coil module voltage (field [1]).

01	Coil	02	DVB	03		04	
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVB full flow dump modules

DVB full flow dump modules [2]

Part Numbers	Description	Cartridge type
11321232	Full flow dump module	Normally Open

Solenoids for full flow dump module

Solenoids for full flow dump module [1]

Part Numbers	Supply Voltage	Connector
11335705	12 Vdc	2x2 DEUTSCH
11335706	24 Vdc	2x2 DEUTSCH

DVBS spool module

DVBS mechanical flow control spools [3]

The mechanical acting DVBS spools determine the flow out of the work section and are based on a generic platform. This platform comes with a wide selection of additional features, allowing you to tailor the DVBS to your hydraulic demands.

The mechanical acting DVBS spool comes in five different main variants:

- DVBS Female Extension
- DVBS Female Extension and through acting
- DVBS Female Extension and detent 02 position, spool out or in
- DVBS Female Extension and detent 03 position, spool out or in
- DVBS Female Extension and float detent at fourth position

How to configure

The DVBS module part number is put in field [3]. The selected module must match with work section module DVB, with the actuators and covers.

Field positioning for DVBS module part number in data sheet

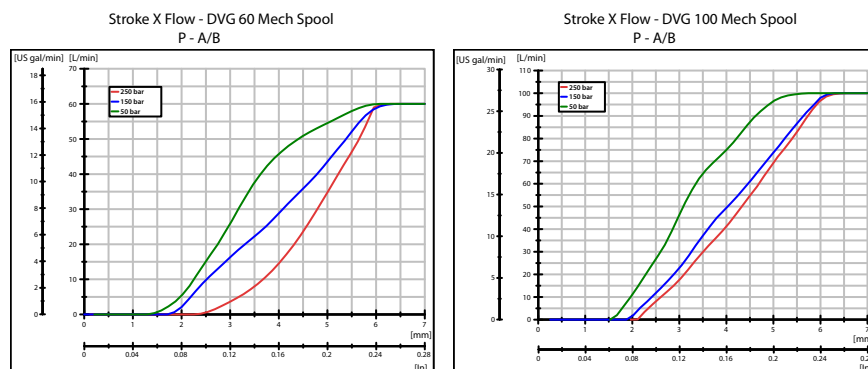
01		02		03	DVBS	04	
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVBS mechanical actuation characteristics

Spool actuation forces

Spool displacement	Operating linear force – Mechanical actuation DVOS handle + DVME cover
From neutral position	135 ± 5 N [30.3 ± 1.1 Lbf]
Maximum spool travel	180 ± 5 N [40.5 ± 1.1 Lbf]

DVBS flow characteristics - theoretical performance



DVBS spool module

Technical specification

Flow Control Spools (FC)

Flow control spools are for work sections where you want to control the speed, or flow, of the work port.

Regenerative Spools (Regen)

Regenerative spools mean the oil returning in one port will be led to the other port, increasing port flow and saving pump flow.

Closed neutral position

In neutral position and inside of the deadband area, the connection to tank is closed.

Throttled (drained) neutral position

In neutral position and inside of the deadband area, the connection to tank is 10% of the full-flow function.

Open neutral position

In neutral position and inside of the deadband area, the connection to tank is open.

Float spool with fourth position

The float spool has closed connections in neutral position, and a fourth position where the work ports connections to the tank are open.

For mechanical actuation, there are available Float In and Float Out, related to spool end at handle side movement.

For solenoid proportional actuation, there is only Float Out available, related to DVHC actuator with handle side. If no DVHC with handle is used, the out movement is related to work ports side A.

Four-way spools

Spools that work with both work ports, intended to actuate double-acting cylinders and motors.

Three-way spools

Spools that work with one of the work ports, and never energize the other work port. Three-way spools are intended to actuate single-acting cylinders or motors that work in only one direction. The unused work port must be plugged.

Spool Ways	Center	Diagram
Four way	Closed center	
Four way	Open center	
Four way	Drained center	
Three way	Closed center	

DVBS spool module

Spool Ways	Center	Diagram
Four way	Regen	
Four way, float in	Closed	
Four way, float out	Closed	

DVBS - spring centered with female extension for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11299824	60	Closed	Spring center	Four
11299825	60	Open	Spring center	Four
11299826	60	Drained	Spring center	Four
11299827	60	Closed	Spring center	Three
11299776	60	Closed	Spring center	Regen
11299828	60	Closed	SC through	Four
11299842	60	Open	SC through	Four
11299843	60	Drained	SC through	Four
11299852	60	Closed	SC through	Three
11299853	60	Closed	SC through	Regen
11299859	100	Closed	Spring center	Four
11299862	100	Open	Spring center	Four
11299863	100	Drained	Spring center	Four
11299860	100	Closed	Spring center	Three
11299861	100	Closed	Spring center	Regen
11299777	100	Closed	SC through	Four
11299778	100	Open	SC through	Four
11299872	100	Drained	SC through	Four
11299873	100	Closed	SC through	Three
11299864	100	Closed	SC through	Regen

DVBS spool module

DVBS - spring centered with female extension for series circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11324745	60	Closed	Spring center	Four
11324746	60	Open	Spring center	Four
11324737	100	Closed	Spring center	Four
11324768	100	Open	Spring center	Four

DVBS - three position detent with female extension for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11299870	60	Closed	Three position detent	Four
11299871	60	Open	Three position detent	Four
11299780	60	Drained	Three position detent	Four
11299875	60	Closed	Three position detent	Three
11299892	60	Closed	Three position detent through	Four
11300175	100	Closed	Three position detent	Four
11300176	100	Open	Three position detent	Four
11300164	100	Drained	Three position detent	Four
11300147	100	Closed	Three position detent	Three
11300149	100	Closed	Three position detent through	Four

For 02 position detent, spool-out is necessary to use an accessory part. Part number 11335714. See DVME, detent 02 position spool to A or B.

DVBS - three position detent with female extension for series circuit



DVBS spool module

Part Numbers	Valve Size	Center	Positioner	Ways
11325159	60	Closed	Three position detent	Four
11325188	60	Open	Three position detent	Four
11325189	60	Closed	Three position detent through	Four
11325190	100	Closed	Three position detent	Four
11325191	100	Open	Three position detent	Four
11325362	100	Closed	Three position detent through	Four

DVBS - float spool with fourth position detent for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11302120	60	Closed	Float in	Four
11302128	60	Closed	Float out	Four
11302121	100	Closed	Float in	Four
11302130	100	Closed	Float out	Four

DVBS - float spool with fourth position detent for series circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11302149	100	Closed	Float in	Four
11302131	100	Closed	Float out	Four

Hydraulic, pneumatic, and solenoid actuation flow control spool

The electrical acting DVBS spools determine the flow out of the work section and are based on a generic platform. This platform comes with a wide selection of additional features, allowing you to tailor the DVBS to suit the demands of any hydraulic system and any function.

The electrical acting DVBS spools come in three different main variants:

DVBS spool module

- DVBS electrical proportional flow control spool
- DVBS electrical on/off flow control spool
- DVBS EVPN Spool (for pneumatic and electro-pneumatic actuation)

DVBS - spool module proportional actuation for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11299594	60	Closed	Spring center	Four
11299538	60	Open	Spring center	Four
11299556	60	Drained	Spring center	Four
11299557	60	Closed	Spring center	Three
11299539	60	Closed	Float out	Four
11299540	60	Closed	Spring center	Regen
11299559	100	Closed	Spring center	Four
11299560	100	Open	Spring center	Four
11299595	100	Drained	Spring center	Four
11299596	100	Drained	Spring center	Three
11299591	100	Closed	Spring center	Regen

DVBS - spool module proportional actuation for series circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11302162	60	Closed	Spring center	Four
11302163	60	Open	Spring center	Four
11302151	100	Closed	Spring center	Four
11302175	100	Open	Spring center	Four
11302177	100	Closed	Float out	Four

DVBS spool module

DVBS - spool module on/off actuation for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11326219	60	Closed	Spring center	Four
11326220	60	Open	Spring center	Four
11326242	60	Closed	Spring center	Three
11326252	100	Closed	Spring center	Four
11326253	100	Open	Spring center	Four
11326239	100	Closed	Spring center	Three

DVBS - spool module on/off actuation for series circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11326227	60	Closed	Spring center	Four
11326221	60	Open	Spring center	Four
11326254	100	Closed	Spring center	Three
11326228	100	Closed	Spring center	Four

DVBS spool module

DVBS - spool module pneumatic actuation for parallel circuit



Part Numbers	Valve Size	Center	Positioner	Ways
11325014	60	Closed	Spring center	Four
11325015	60	Closed	Spring center	Three
11325016	100	Closed	Spring center	Four
11325001	100	Closed	Spring center	Three

DVOS - open spool mechanical actuation

DVOS - open spool mechanical actuation overview

The DVOS mechanical actuation consists of an aluminum base with a lever and a rubber boot to protect the spool, which is mounted on the end of the valve slice. When actuating the lever, the operator is directly pulling or pushing on the main spool inside the valve, controlling the flow.

The lever has a travel of $\pm 19.5^\circ$ in either direction from neutral. Actuating the lever fully will move the spool all 7 mm and give full flow. The lever can be mounted/removed without having to remove the DVOS base.

The DVOS should be used with open spool mechanical actuation and can be combined with any DVME, spring center, detent, and through action.

The robust lever offers a stronger handle option.



DVOS - open spool mechanical actuation

How to configure

DVOS can be assembled on slice side A or B and the correct module part number must be put in fields [1] or [4].

01	DVOS	02		03		04	DVOS
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVOS mechanical actuation modules

Part Numbers	Valve Size	Description
11319128	60	DVOS mechanical actuator
11319114	60	DVOS mechanical actuator with lever
11319116	60	DVOS mechanical actuator with robust lever
11319385	100	DVOS mechanical actuator
11319386	100	DVOS mechanical actuator with lever
11319346	100	DVOS mechanical actuator with robust lever

DVME - open spool centering cover

DVME - open spool centering cover overview

The DVME spring centering consists of an aluminum cover mounted on the end of the valve slice, ensuring the position of the spool in neutral positions and spool in/out. The DVME spring centering cover should be used with spool option: Mechanical flow control spools, Female Extension. It can be combined with any DVOS open spool actuators.

The DVME cover works with DVG valve series 60 and 100.

How to configure

The DVME can be assembled on slice side A or B, and the correct module part number must be put in fields [1] or [4]. The DVME is normally used together with a DVOS on the opposite side of the slice.

01	DVME	02		03		04	DVME
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVME - open spool centering cover modules



DVME cover



DVME cover through

Part Numbers	Valve Size	Description
11320718	60 and 100	DVME cover through
11320738	60 and 100	DVME cover

Open spool cover for selector slice

Open spool cover for selector slice overview

This cover is intended for use with spool types “Three position detent with female extension” (non-through type only). The NC (normally closed) switch is in the open circuit state with the spool in the neutral position. When the spool is moved into the detented “spool out” position, the circuit is closed. This DVME variant blocks spool actuation in the “spool in” direction.

This DVME variant is commonly used with a series or tandem work section to feed an external valve. With the spool in the neutral position, downstream DVG functions can receive pump flow. With the spool in the “spool out” detent position, flow is fed to the external valve and downstream DVG functions are prevented from operating. In this scenario, the unused work port of the selector slice must be plugged.

The cover can also be specified with a plug in place of the electrical switch, for a later addition of the switch. The switch connector is Deutsch DT4-2.



How to configure

The DVME detent for selector slice can be assembled in sides A or B of the slice, putting the correct part number in fields [1] or [3]. The DVME for selector slice is normally used together with a DVOS on the opposite side of slice.

01	DVME	02		03		04	DVME
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVME - for selector slice modules

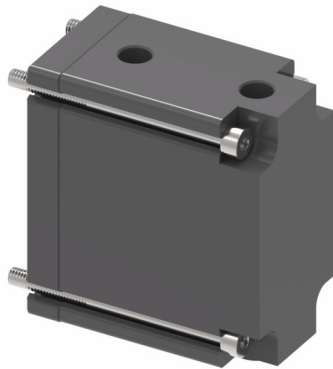
Part Numbers	Valve Size	Description
11326640	60 and 100	DVME selector cover
11326676	60 and 100	DVME selector cover with spool switch indicator

DVPN - pneumatic actuation

DVPN - pneumatic actuation overview

The DVPN is an aluminum plate with two threaded connections mounted on one end of the valve slice. When applying air pressure through one of the pneumatic ports, one side of the spool is pushed to one direction, leading to flow coming from the work ports. The DVPN is to be combined with an DVM and a special DVBS spool for DVPN.

The pneumatic ports are 1/8" BSP size.



The two plugs in the bottom of the DVPN actuator are an optional mount for upside down pneumatic ports.

How to configure

DVPN can be assembled on slice side A or B and the correct module part number must be put in fields [1] or [4].

01	DVPN	02		03		04	DVPN
05		06		07		08	
09		10		11		12	
13		14		15		16	

Technical Data

Pilot air supply	Minimum	5 bar [72 PSI]
	Maximum	12 bar [174 PSI]

DVPN - pneumatic actuation modules

Part Numbers	Valve Size	Description
11323710	60	DVPN 60 actuator
11323720	100	DVPN 100 actuator

DVPN - electro-pneumatic actuation

DVPN - electro-pneumatic actuation overview

The DVPN is an aluminum plate with two solenoids mounted on one end of the valve slice. When applying energy to one of the solenoids, the spool is pushed to one direction, resulting in flow coming from the work ports. The DVPN is to be combined with a DVM and a special DVBS spool for DVPN.



How to configure

DVPN can be assembled on slice side A or B and the correct module part number must be put in fields [1] or [4].

01	DVPN	02		03		04	DVPN
05		06		07		08	
09		10		11		12	
13		14		15		16	

Technical Data

Pilot air supply	Minimum	5 bar [72 PSI]
	Maximum	21 bar [304 PSI]

Control specifications

Supply Voltage (Udc)	Rated	12 Vdc	24 Vdc
	Range	11 to 15 Vdc	22 to 30 Vdc
Current	At 22°C [71°F] coil temperature	500 mA	250 mA
Power	At 22°C [71°F] coil temperature	6 W	6 W
Resistance		24 Ohms	96 Ohms
Reaction time from neutral position to max. spool travel		Max. 50 ms	

DVPN - electro-pneumatic actuation

Operational conditions

Parameter	Minimum	Recommended range	Maximum
Fluid temperature	-30°C [-22°F]	30 to 60°C [86 to 140°F]	90°C [194°F]
Fluid viscosity	4 mm ² /s [39 SUS]	12 to 75 mm ² /s [65 to 347 SUS]	460 mm ² /s [2128 SUS]
Fluid cleanliness	23/19/16 (according to ISO 4406)		
Operating temperature	Ambient: -30 to 60°C [-22 to 140°F]		

DVPN - electro-pneumatic actuators modules

Part Numbers	Valve Size	Voltage Supply	Description	Connector
11323708	60	12 Vdc	DVPN 60 Eletro-pneumatic actuator, 12 Vdc	2x2 DEUTSCH
11323709	60	24 Vdc	DVPN 60 Eletro-pneumatic actuator, 24 Vdc	2x2 DEUTSCH
11323648	100	12 Vdc	DVPN 100 Eletro-pneumatic actuator, 12 Vdc	2x2 DEUTSCH
11323649	100	24 Vdc	DVPN 100 Eletro-pneumatic actuator, 24 Vdc	2x2 DEUTSCH

DVOS - mechanical cable actuation

DVOS - mechanical cable actuation overview

The DVOS cable actuation allows using flexible mechanical cables to remotely operate the valve. Various cable lengths are available and a handle actuator can be used at the end of the cable. The DVOS cable actuator can be assembled directly on an open side of a mechanical spool.

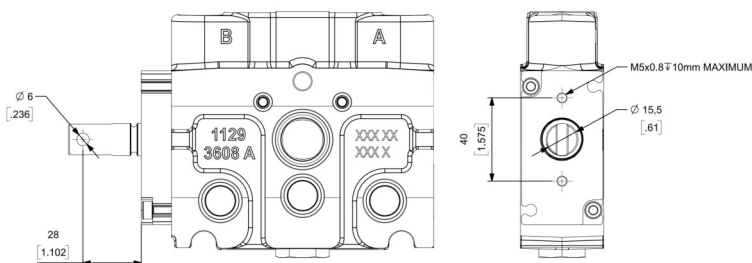
The DVOS cable actuator can be used with a DVME on the opposite side of the slice.

The cable, cable adapter, and handle box are sold separately.

DVOS cable



DVOS cable interface



How to configure

The DVOS cable actuator module is indicated in fields [1] and [4].

01	DVOS	02		03		04	DVOS
05		06		07		08	
09		10		11		12	
13		14		15		16	

DVOS - mechanical cable actuation

DVOS - mechanical cable actuators modules

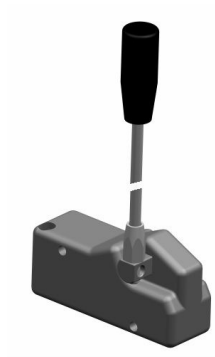
DVOS - cable actuation module

Part Numbers	Valve Size	Description
11319115	60	DVOS mechanical adapter for cable actuation
11300158	100	DVOS mechanical adapter for cable actuation

DVOS cable adapter accessories - ordered separately



Cable attachment



Handle box

Part numbers for DVOS accessories

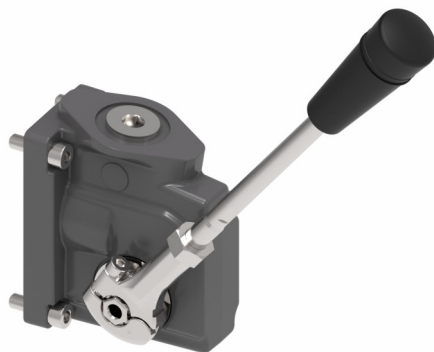
Part Numbers	Valve Size	Description
11326827	60 and 100	DVG cable attachment
11184636	60 and 100	Handle box
11173594	60 and 100	Cable 1000 mm (39.37")
11167997	60 and 100	Cable 1500 mm (59.06")
11171745	60 and 100	Cable 2000 mm (78.74")
11165320	60 and 100	Cable 2500 mm (98.43")
11321918	60 and 100	Cable 3000 mm (118.11")
11184653	60 and 100	Cable 3500 mm (137.80")

DVM - mechanical actuation for DVB pneumatic or electric

DVM - mechanical actuation for DVB pneumatic or electric overview

The DVM consists of an aluminum base with a lever mounted on the end of the valve slice.

When actuating the lever, the operator is directly pulling or pushing on the main spool inside the valve, controlling the flow. Actuating the lever fully will move the spool all 7 mm and give full flow. The lever can be mounted/removed without having to remove the DVM base. The DVM should be used with pneumatic or electro-pneumatic control spools. It also can be used with DVH, DVHC, and DVHCO on the opposite side when applied with three way spools, and only one side requires actuation (hydraulic or electric).



How to configure

The DVM mechanical actuator with handle for electric sections is indicated in fields [1] and [4].

01	DVM	02		03		04	DVM
05		06		07		08	
09		10		11		12	
13		14		15		16	

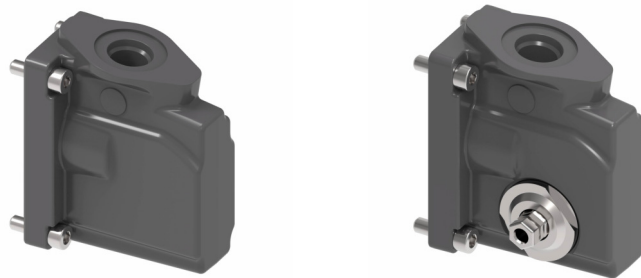
DVM - mechanical actuation for DVB electric module

Part Numbers	Valve Size	Description
11321883	60 and 100	DVM mechanic actuation with lever

DVH - hydraulic actuation

DVH - hydraulic actuation overview

The DVH is an aluminum plate with one threaded connection mounted on the end of the valve and it is necessary to have one at each valve side. When applying pressure through one of the ports, one side of the spool is pushed to the opposite direction, resulting in flow coming from the work ports. The DVH is to be combined with another DVH at the opposite side.



How to configure

DVH with or without handle facility can be assembled on slice side A or B. The correct module part number must be put in fields [1] or [4]. On the opposite side, it must be assembled as another DVH or a DVM (in case of three-way spool).

01	DVH	02		03		04	DVH
05		06		07		08	
09		10		11		12	
13		14		15		16	

Technical Data

Control range pressure from neutral to max A/B	3.5 to 18 bar [50 to 261 PSI]
Maximum pilot pressure	35 bar [507 PSI]
Maximum pressure on port T¹	10 bar [145 PSI]

¹ The hydraulic remote-control lever should be connected directly to tank

DVH - hydraulic actuators modules without lever facility

DVH - hydraulic actuators modules without lever facility

Part Numbers	Valve Size	Description	Connection
11300860	60 and 100	DVH Actuator	9/16"-18 UNF
11300827	60 and 100	DVH Actuator	1/4 BSP

DVH - hydraulic actuation

DVH - Hydraulic actuators modules with lever facility

DVH - Hydraulic actuators modules with lever facility - no lever

Part Numbers	Valve Size	Description	Lever	Connection
11300861	60 and 100	DVH Actuator	No	9/16"-18 UNF
11300828	60 and 100	DVH Actuator	No	1/4 BSP

[Lever assembly can be bought separately - 11098268](#)

DVHC - electrical proportional actuation

DVHC - electrical proportional actuation overview

The DVHC consists of an aluminum base with one solenoid pressure reducing valve mounted on the end of the valve slice. It is necessary to have one at each end of the valve slice. When actuating with an electrical proportional signal, the main spool position is adjusted so that its position is proportional to the electrical control signal.

The control signal is converted into a hydraulic pressure signal that moves the main spool in the DVB. This is done by two proportional pressure-reducing valves. The electrical actuator can be controlled either by a current amplifier card, or directly from a programmable microcontroller.

The actuator controls the spool by building up pilot oil pressure on the end of the spool. For the DVHC, it is necessary to have a pilot oil pressure between 25 and 30 bar.

The actuators have the option to have adjustment screws to limit spool travel in either direction.

The DVHC should be used with electrical spools and can be combined with any other DVHC.



DVHC



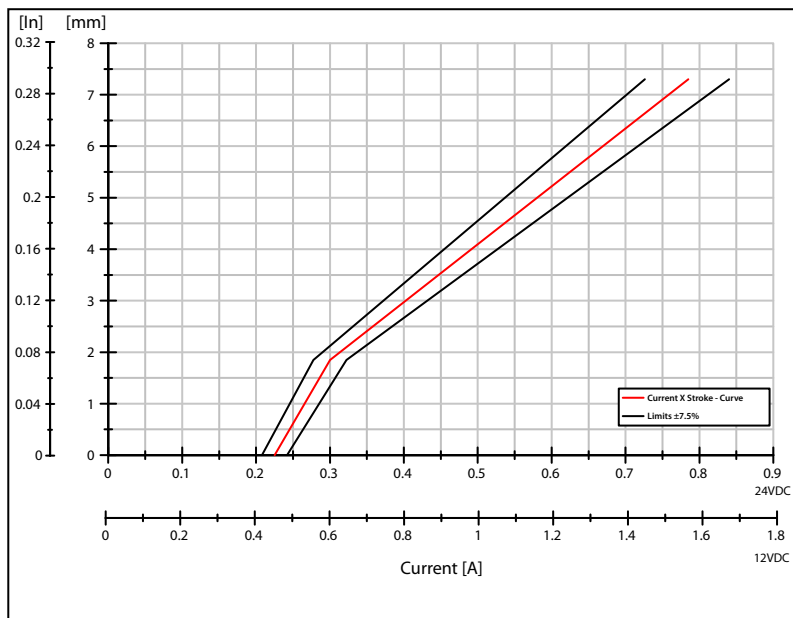
DVHC with handle

DVHC current response and hysteresis @ 25 bar Pp, 32 cSt, 55°C. The ideal curve (red line) is determined by the main spool neutral spring. The DVHC hysteresis is around $\pm 7.5\%$ (gray region).

The hysteresis is affected by viscosity, friction, flow forces, dither frequency, and modulation frequency. The spool position will shift when conditions are changed e.g. temperature change.

DVHC - electrical proportional actuation

DHVC - Stroke x Current



How to configure

DVHC with or without handle facility can be assembled on slice side A or B, and correct module part number must be put in fields [1] or [4]. On the opposite side, it must be assembled as another DVHC or a DVM (in case of three-way spool).

01	DVHC	02		03		04	DVHC
05		06		07		08	
09		10		11		12	
13		14		15		16	

Control specifications

Parameter	Supply Voltage (Udc)	
	12 Vdc	24 Vdc
Controller output current range	0 to 1500 mA	0 to 750 mA
Resistance	4.75 Ω ± 5%	20.8 Ω ± 5%
PWM Frequency	100 to 400 Hz	
Pilot oil pressure supply (when using external supply)	25 to 30 bar [362 to 435 PSI]	
Pressure control range	8 to 23 bar [116 to 333 PSI]	
Ambient temperature range	-30°C to 80°C [-22 °F to 176°F]	
Temperature range	-20°C to 80°C [-4 °F to 176°F]	
Fluid cleanliness	23/19/16 (according to ISO 4406)	

DVHC - electrical proportional actuation

Operation conditions

Parameter	Minimum	Recommended Range	Maximum
Fluid temperature	- 30°C [-22°F]	30 to 60°C [86 to 140°F]	90°C [194 °F]
Fluid viscosity	4 mm ² /s [39 SUS]	12 to 75 mm ² /s [65 to 347 SUS]	460 mm ² /s [2128 SUS]
Fluid cleanliness	23/19/16 (according to ISO 4406)		
Operating temperature	Ambient: -30 to 60°C [-22 to 140°F]		

DVHC - proportional electro-hydraulic actuator without handle facility modules

Part Numbers	Valve Size	Voltage Supply	Connector Type	Protection Class
11299597	60 and 100	12 Vdc	2x2 DEUTSCH	IP 67
11299616	60 and 100	24 Vdc	2x2 DEUTSCH	IP 67

DVHC - proportional electro-hydraulic actuator with handle facility modules

Part Numbers	Valve Size	Voltage Supply	Connector Type	Lever	Adjustment Screws	Protection Class
11299598	60 and 100	12 Vdc	2x2 DEUTSCH	-	-	IP 67
11299599	60 and 100	12 Vdc	2x2 DEUTSCH	Yes	-	IP 67
11299614	60 and 100	12 Vdc	2x2 DEUTSCH	-	Yes	IP 67
11299615	60 and 100	12 Vdc	2x2 DEUTSCH	Yes	Yes	IP 67
11299624	60 and 100	24 Vdc	2x2 DEUTSCH	-	-	IP 67
11299625	60 and 100	24 Vdc	2x2 DEUTSCH	Yes	-	IP 67
11299626	60 and 100	24 Vdc	2x2 DEUTSCH	-	Yes	IP 67
11299627	60 and 100	24 Vdc	2x2 DEUTSCH	Yes	Yes	IP 67

DVHCO - ON/OFF electrical actuation [1] [4]

DVHCO - ON/OFF electrical actuation overview

The DVHCO consists of an aluminum base with one solenoid directional valve mounted on the end of the valve slice. It is necessary to have one at each end of the valve slice. When actuating with nominal voltage, the main spool position shifts to full stroke.

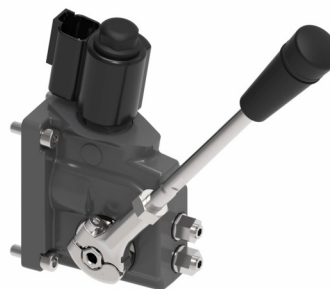
For the DVHCO to work properly, it is necessary to have a pilot oil pressure between 25 and 30 bar.

The actuators have the option to have adjustment screws to limit spool travel in either direction.

The DVHCO should be used with electrical spools and can be combined with any other DVHCO on the opposite side, or a DVM if it is desired to operate as two position spool.



DVHCO



DVHCO with lever

How to configure

DVHCO with or without handle facility can be assembled on slice side A or B, and the correct module part number must be put in fields [1] or [4]. On the opposite side, it must be assembled as another DVHCO or a DVM (in case to operate as two position spool).

01	DVHCO	02		03		04	DVHCO
05		06		07		08	
09		10		11		12	
13		14		15		16	

Control specifications

Parameter	Supply Voltage (Udc)	
	12 Vdc	24 Vdc
Supply voltage range	11 to 15 Vdc	22 to 30 Vdc
Current - coil at 22°C [71°F]	0.36 A	0.18 A
Power - coil at 22°C [71°F]	8 W	8 W
Resistance at 20°C [68°F]	18 Ω ± 5%	72 Ω ± 5%
Pilot oil pressure supply (when using external supply)	25 to 30 bar [362 to 435 PSI]	
Response time	300 ms	
Fluid temperature range	-30°C to 90°C [-22 °F to 194°F]	

DVHCO - ON/OFF electrical actuation [1] [4]

Operation conditions

Parameter	Minimum	Recommended Range	Maximum
Fluid temperature	- 30°C [-22°F]	30 to 60°C [86 to 140°F]	90°C [194°F]
Fluid viscosity	4 mm ² /s [39 SUS]	12 to 75 mm ² /s [65 to 347 SUS]	460 mm ² /s [2128 SUS]
Fluid cleanliness	23/19/16 (according to ISO 4406)		
Operating temperature	Ambient: -30 to 60°C [-22 to 140°F]		

DVHCO - on/off electrical actuation without handle facility modules

Part Numbers	Valve Size	Voltage Supply	Connector Type	Protection Class
11320696	60 and 100	12 Vdc	2x2 DEUTSCH	IP 67
11320732	60 and 100	24 Vdc	2x2 DEUTSCH	IP 67

DVHCO - on/off electrical actuation with handle facility modules

Part Numbers	Valve Size	Voltage Supply	Connector Type	Lever	Adjustment Screws	Protection Class
11320726	60 and 100	12 Vcc	2x2 DEUTSCH	-	-	IP 67
11320690	60 and 100	12 Vcc	2x2 DEUTSCH	Yes	-	IP 67
11320691	60 and 100	12 Vcc	2x2 DEUTSCH	-	Yes	IP 67
11320699	60 and 100	12 Vcc	2x2 DEUTSCH	Yes	Yes	IP 67
11320727	60 and 100	24 Vcc	2x2 DEUTSCH	-	-	IP 67
11320733	60 and 100	24 Vcc	2x2 DEUTSCH	Yes	-	IP 67
11320697	60 and 100	24 Vdc	2x2 DEUTSCH	-	Yes	IP 67
11320698	60 and 100	24 Vdc	2x2 DEUTSCH	Yes	Yes	IP 67

It is not possible to combine electro-hydraulic actuated slices with pneumatic slices in the same valve stack.

DVT - outlet modules

DVT - outlet modules overview

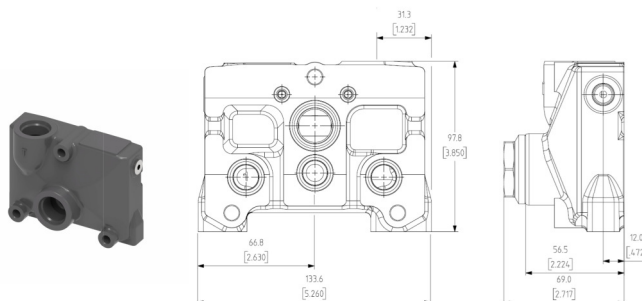
The DVT outlet closes off the valve stack section by placing it at the end. Furthermore, the end plate has the outlet tank port to be connected to the return line to the tank.

When used with solenoid operated stacks, the pressure build-up valve must be assembled at side port. The PP port at outlet can be used as pilot pressure supply, to energize hydraulic equipment that requires pilot pressure with small flow (less than 5 LPM). An example of this is a hydraulic joystick.

The DVT pneumatic version is intended to be used in valve stacks actuated by pneumatic or electro-pneumatic actuators. In this DVT module, the side port is not machined, and the PP port is used for the pneumatic power supply.

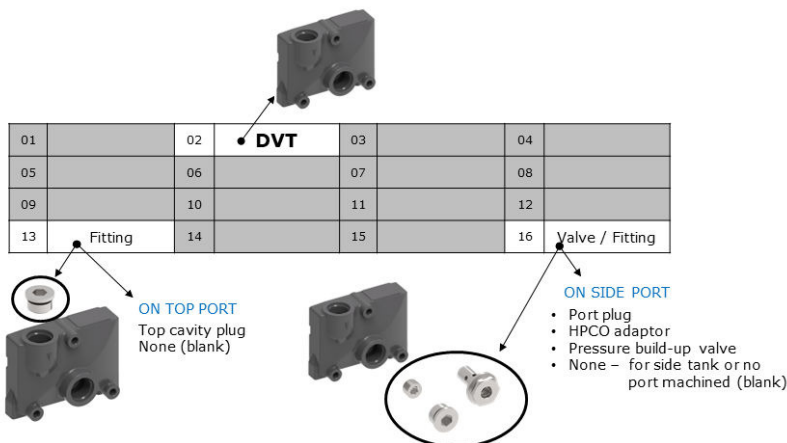
To transform the side outlet port into a power-beyond port, it is necessary to assemble an internal plug that disconnects the bypass line from the tank line. The bypass flow is directed to the power-beyond port, and the top port keeps being the tank port.

Power-beyond is useful when it is necessary to supply flow to another part of the hydraulic circuit. If any spool of valve is actuated, the bypass flow is cut, and the downstream components do not receive flow.



How to configure

To configure a DVT, it is necessary to select the DVT module and accessories. The correct DVT module part number must be put in field [2], and accessories must be put in fields [13] and [16].



DVT - outlet modules

DVT - operation limits

Max. T port continuous	Max. power beyond port continuous	Max. rated flow
40 bar [580 PSI]	310 bar [4500 PSI]	100 L/min [26.4 US gal/min]

DVT - technical specification

Parameter	Minimum	Recommended Range	Maximum
Fluid temperature	-30°C [-22°F]	30 to 60°C [86 to 140°F]	90°C [194°F]
Fluid viscosity	4mm ² /s [39 SUS]	12 to 75 mm ² /s [65 to 347 SUS]	460 mm ² /s [2128 SUS]
Fluid cleanliness (mechanical activation)	23/19/16 (according to ISO 4406)		
Fluid cleanliness (solenoid activation)	18/16/13 (according to ISO 4406)		
Operating temperature	Ambient: -30 to 60°C [-22 to 140°F]		

DVT - outlet modules

DVT - outlet modules - mechanical and solenoid actuator

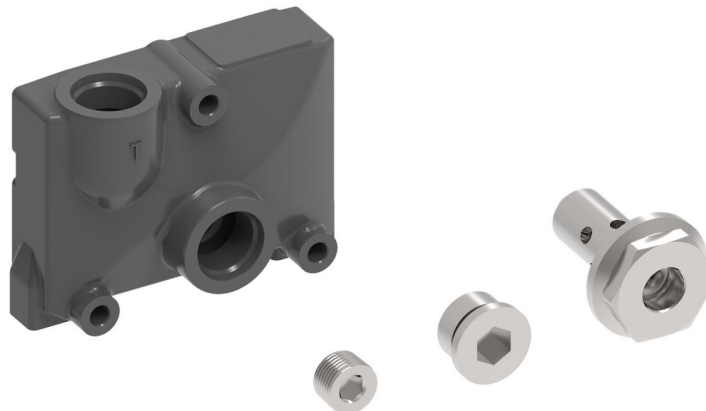
Part Numbers	Valve Size	Description	Top Port	Side port	PP port	Mounting
11297722	60 and 100	Outlet SAE#10 ports	7/8-14 UNF	7/8-14 UNF	7/16-20 UNF	M8
11297723	60 and 100	Outlet SAE#12 ports	1 1/16-12 UNF	1 1/16-12 UNF	7/16-20 UNF	M8

DVT - outlet modules - pneumatic actuator

Part Numbers	Valve Size	Description	Top Port	Side port	Pneumatic port	Mounting
11297700	60 and 100	Outlet SAE#10 ports PN	7/8-14 UNF	-	1/8"-28 BSP	M8
11297701	60 and 100	Outlet SAE#12 ports PN	1 1/16-12 UNF	-	1/8"-28 BSP	M8

Outlet accessories

DVT accessories

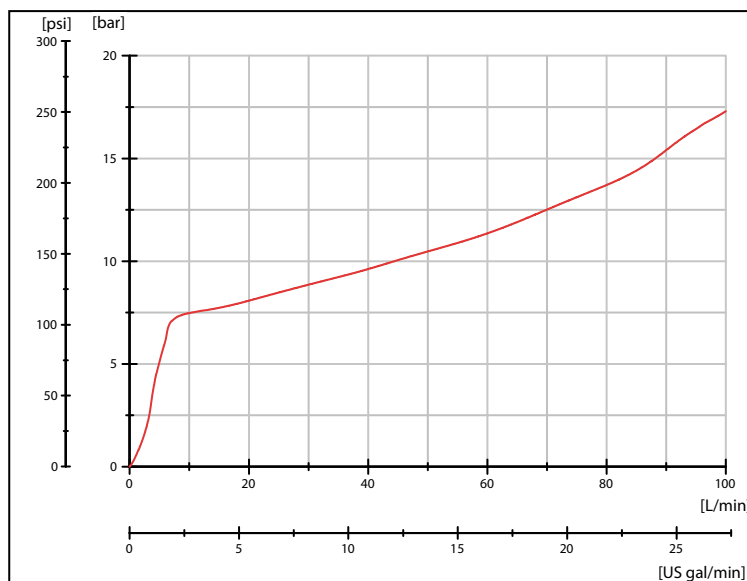


DVT - outlet modules

Outlet accessories

Part Numbers	Valve Size	Description	Thread
11327515	60 and 100	HPCO adapter plug	M18
11303009	60 and 100	Pressure build-up valve	M18
11335679	60 and 100	SAE#10 cavity plug	7/8-14 UNF
11306248	60 and 100	SAE#12 cavity plug	1 1/16-12 UNF

Pressure drop P to T with pressure build-up valve



DVAS - assembly kit

DVAS - assembly kit overview

DVAS assembly kit for various DVG combinations consists of three tie rods, six washers, six nuts, and an O-ring. Use the guide and reference tables for help with a DVAS kit.

The tie rods are inserted through the entire length of the DVG valve stack. The nuts are tightened at the inlet side and at the outlet side.

For valve combinations, DVG 60 with DVG 100 or with PVGs and HIC hybrid solutions, use assembly range indicated to select the correct tie rod kit.

DVAS - modules according to accumulated length interval

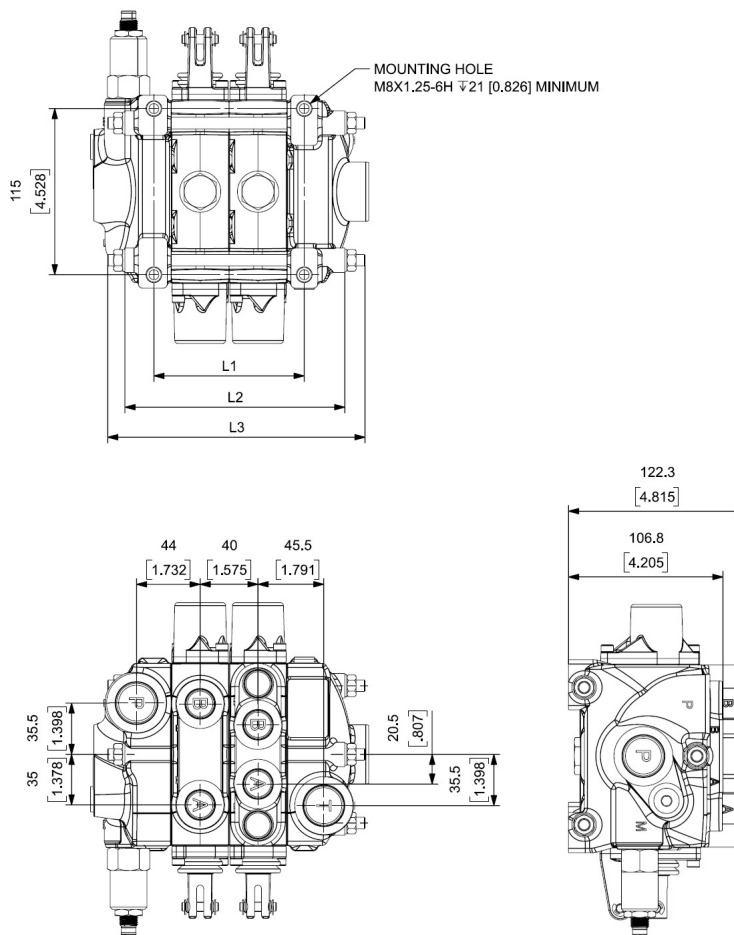
DVAS modules according to accumulated length interval

Part Numbers	Number of Work Sections		Stack Length Range
	DVG 60	DVG 100	
11325710	1	1	103 to 116
11325759	2	2	147 to 160
11325760	3	3	191 to 204
11325711	4	4	235 to 248
11325761	5	☒	259 to 272
11325787	☒	5	279 to 292
11325792	6	☒	299 to 312
11325793	☒	6	323 to 336
11325802	7	☒	339 to 352
11325747	☒	7	379 to 392
11325748	8	☒	379 to 392
11325794	☒	8	419 to 432
11325795	9	☒	419 to 432
11325788	☒	9	459 to 472
11325749	10	☒	459 to 472
11325789	☒	10	499 to 512
11325790	11	☒	499 to 512
11325791	☒	11	543 to 556
11325796	12	☒	543 to 556
11325803	☒	12	587 to 600

Module	Length for DVAS calculation (mm)
DVP	32
DVT	37
DVB 60	40
DVB 100	44
DVB Full Flow Dump Module	40

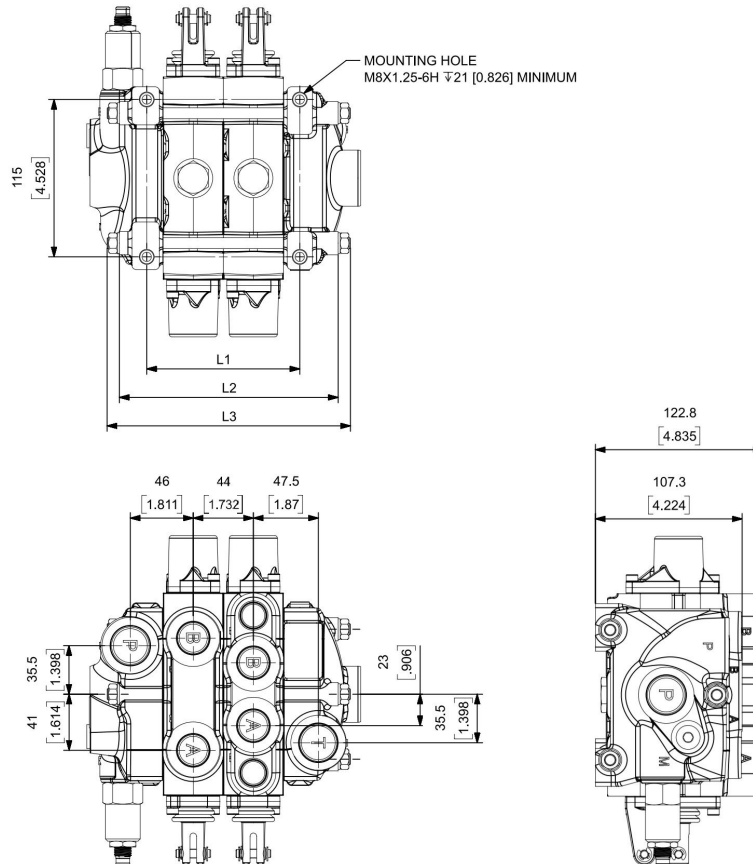
[O-rings are a part of the DVAS kits - no additional part number is needed.](#)

DVG 60 basic dimensions



Dimension	Number of Work Sections											
	1	2	3	4	5	6	7	8	9	10	11	12
L1 mm [in]	64 [2.5]	104 [4.1]	144 [5.7]	184 [7.2]	224 [8.8]	264 [10.4]	304 [12]	344 [13.5]	384 [15.1]	424 [16.7]	464 [18.3]	504 [19.8]
L2 mm [in]	109 [4.3]	149 [5.9]	189 [7.4]	229 [9]	269 [10.6]	309 [12.2]	349 [13.7]	389 [15.3]	429 [16.9]	469 [18.5]	509 [20]	549 [21.6]
L3 mm [in]	134 [5.3]	178 [7.0]	222 [8.7]	266 [10.5]	290 [11.4]	330 [13.0]	370 [14.6]	410 [16.1]	450 [17.7]	490 [19.3]	530 [20.9]	574 [22.6]
Weight kg [lb]	8.9 [19.6]	12.8 [28.2]	16.6 [36.6]	20.4 [45]	24.3 [53.6]	28.1 [61.9]	31.9 [70.3]	35.7 [78.7]	39.6 [87.3]	43.4 [95.7]	47.2 [104.1]	51.1 [112.7]

DVG 100 basic dimensions



Dimension	Number of Work Sections											
	1	2	3	4	5	6	7	8	9	10	11	12
L1 mm [in]	68 [2.7]	112 [4.4]	156 [6.1]	200 [7.9]	244 [9.6]	288 [11.3]	332 [13.1]	376 [14.8]	420 [16.5]	464 [18.3]	508 [20]	552 [21.7]
L2 mm [in]	113 [4.4]	157 [6.2]	201 [7.9]	245 [9.6]	289 [11.4]	333 [13.1]	377 [14.8]	421 [16.6]	465 [18.3]	509 [20]	553 [21.8]	597 [23.5]
L3 mm [in]	134 [5.3]	178 [7.0]	222 [8.7]	266 [10.5]	310 [12.2]	354 [13.9]	410 [16.1]	450 [17.7]	490 [19.3]	530 [20.9]	574 [22.6]	618 [24.3]
Weight kg [lb]	10.0 [22.0]	15.0 [33.1]	19.9 [43.9]	24.8 [54.7]	29.8 [65.7]	34.7 [76.5]	39.6 [87.3]	44.5 [98.1]	49.5 [109.1]	54.4 [119.9]	59.3 [130.7]	64.3 [141.8]

DVG specification examples

Specification Sheet
 Valve type:

DVG60-100



Subsidiary / Dealer	Danfoss Sold-To Party No.		Customer	
Valve No.	Customer Part No.		Application	
Filled in by	Date	Revision No		EAU
Function	A-Port			B-Port
1			bar	
2	LSA=	bar	LSB=	bar
3	LSA=	bar	LSB=	bar
4	LSA=	bar	LSB=	bar
5	LSA=	bar	LSB=	bar
6	LSA=	bar	LSB=	bar
7	LSA=	bar	LSB=	bar
8	LSA=	bar	LSB=	bar
9	LSA=	bar	LSB=	bar
10	LSA=	bar	LSB=	bar
11	LSA=	bar	LSB=	bar
12	LSA=	bar	LSB=	bar
13	LSA=	bar	LSB=	bar
14	LSA=	bar	LSB=	bar
15	LSA=	bar	LSB=	bar
18 Assembly Kit	1.	2.	3.	Business Type:
19 Painting (write no if paint not wanted)				PVE Programming:
20 Customer Text on Group Label				EX Certification:
21 Customer Text on Packaging Label (Box)				None
22 Comment:				
LIST PRICE SPEC. BRL	0.00	Discount		

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