Data Sheet

PVG 128/256 Open Center Solutions

Open Center Solutions

Danfoss Power Solutions is pleased to introduce new open center solutions for the PVG 128/256 valve family, expanding the product line for use in fixed displacement pump applications. Solutions include a variety of open center inlets, as well as an open center module that can be used for converting an existing closed center system to open center.
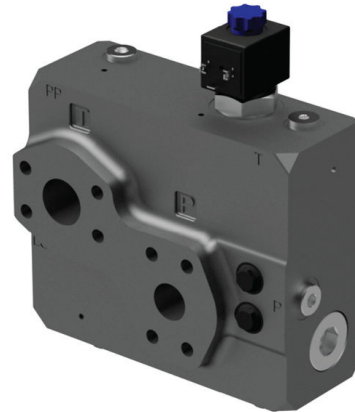
Open Center and Open/Closed Center Inlets (PVP128)

The PVP128 open center (OC) inlets are a new addition to the PVG 128/256 family, intended for use with fixed displacement pumps. Also offered are PVP128 open/closed center (OC/CC) inlet variants with additional features.

Features

PVP128 OC & OC/CC Inlets

- LS relief valve (LSRV) w/ unloader (pressure adjustment spool) for fixed pump applications
- Pilot pressure reducing valve (PPRV) for PVE or PVHC
- Shock valve facility (2x PVLP)
- Facility for pilot shut off valve (PVPP)
- OC/CC selector for easy conversion between open center and closed center applications, adding flexibility when the pump type is not determined in the initial design stages, or when one valve configuration is to be used in both fixed and variable pump applications.
- Facility for electrical (PVPE) or hydraulic (PVPH) full flow dump valve, reducing system standby pressure for increased energy efficiency. If PVPE or PVPH are not desired, PVPD plug should be selected on the specification sheet.

Technical Data for PVP128 OC & OC/CC

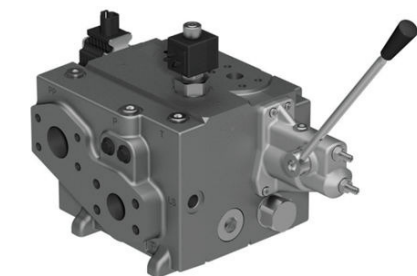| Max. P-port continuous	Max. P-port intermittent	Max. T-port static/dynamic	Max. rated flow
350 bar [5076 psi]	400 bar [5800 psi]	25/40 bar [363/580 psi]	500 l/min [132 US gal/min]

The OC256 module is an additional new offering that adds more flexibility to the PVG 128/256 portfolio. By adding this module to an existing CC system, the system can be converted for fixed pump use. This module, when combined with a PVPV inlet, has a higher flow capacity than PVP128 OC & OC/CC inlets.

Features of OC256

- LS relief valve (LSRV) w/ unloader (pressure adjustment spool) for fixed pump applications
- OC/CC selector for easy conversion between open center and closed center applications, adding flexibility when the pump type is not determined in the initial design stages, or when one valve configuration is to be used in both fixed and variable pump applications
- Facility for electrical (PVPE) or hydraulic (PVPH) full flow dump valve, reducing system standby pressure for increased energy efficiency. If PVPE or PVPH are not desired, PVPD plug must be selected on the specification sheet.

The OC256 module should be mounted immediately after an inlet and before the first working section, as shown on the illustration below. This allows for the LS shuttle network to transmit the highest load pressure to the OC256 module, allowing for proper function of the unloader when in the open center configuration.

| Max. P-port continuous	Max. P-port intermittent	Max. T-port static/dynamic	Max. rated flow
350 bar [5076 psi]	400 bar [5800 psi]	25/40 bar [363/580 psi]	600 l/min [159 US gal/min][1]

[1] When used in combination with PVPV inlet

OC/CC Selector

The OC/CC selector on the PVP128 OC/CC inlet and OC256 module is used to convert the valve for use with variable pump (CC mode) or fixed pumps (OC mode). The PVP128 OC version does not have this feature. All inlets that include this feature will ship from Danfoss in OC mode.

Turning the selector clockwise (↻) corresponds to the open center configuration for use with fixed pumps. In this configuration, the oil flows from the pump through the P-port in the PVP128 OC/CC or OC/CC 256 module across the unloader/pressure adjustment spool to tank. The oil flow across the pressure adjustment spool determines the pump pressure. When one or more sections in the valve stack are actuated, the highest load pressure is fed to the spring chamber behind the pressure adjustment spool, completely or partially closing the connection to tank.

Turning the selector counterclockwise (↺) corresponds to the closed center configuration for use with variable pumps. In this configuration, the oil flows from the pump through the P-port in the PVP128 OC/CC or OC/CC 256 module, but the unloader/pressure adjustment spool will only open to tank when the P-channel pressure exceeds the setting of the LS relief valve. The LS signal is fed to the pump regulator through the LS-port in the inlet.

The adjustment should be made using a 6mm hex key.
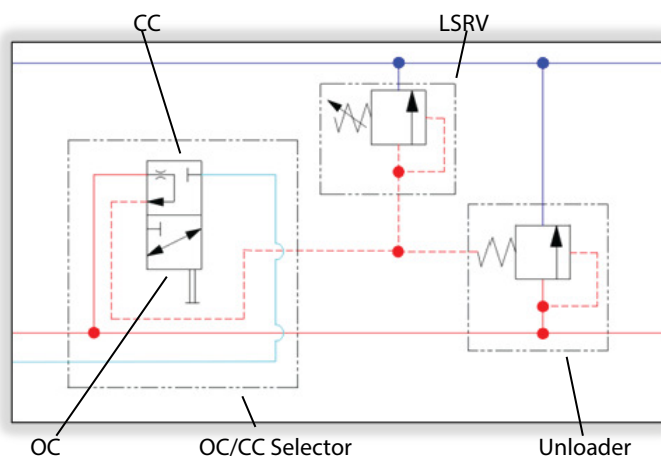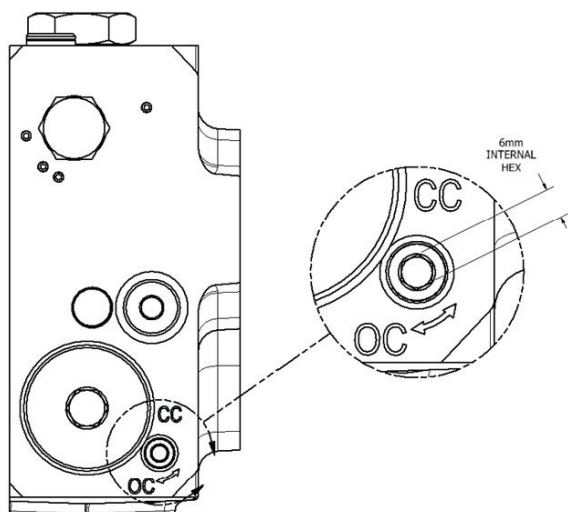
In an open center system, the oil flow led across the unloader/pressure adjustment spool determines the pump stand-by pressure. This relation is shown in the graph below (see "Unloader"). Also shown are reduced standby pressures for optional accessories PVPE & PVPH, described in subsequent sections.

Standby Pressure of PVP128 (OC mode) / Standby Pressure of PVPV256+OC256 (OC mode)
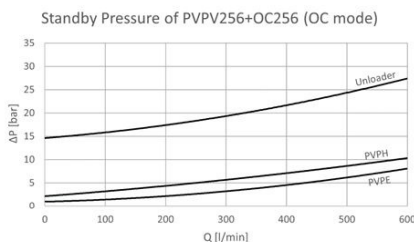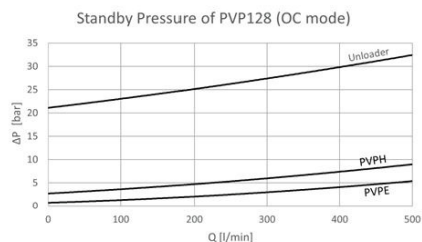
PVPE (electrical) and PVPH (hydraulic) Relief Valves, Normally Open

If a reduced stand-by pressure is required, an extra relief valve PVPE (electrical) or PVPH (hydraulic) can be used to dump pump flow directly to tank. Both options are normally open, meaning a signal must be applied before workport pressure can build. See section "Performance of PVP128 OC, PVP128 OC/CC, and OC256" for graph showing reduced standby pressure achieved by these optional relief valves. See table for available variants.

PVPP

When deactivated, the PVPP solenoid valve disables pilot pressure supply to the electrohydraulic (PVE/PVHC) or hydraulic (PVH joystick) actuators, disabling main spool actuation. Spools can still be activated manually via the PVM lever actuator. See table for available variants.
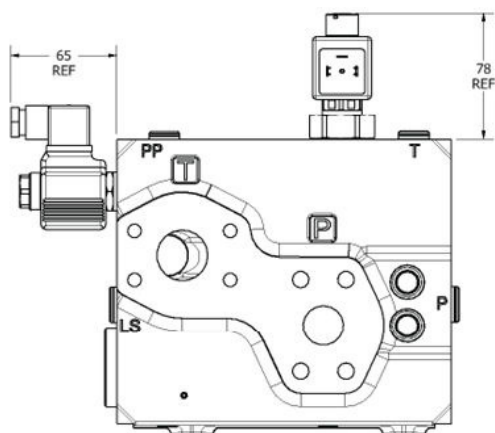
Reference Illustration of PVPP (left) and PVPE (top right)

PVP 128 OC Variants

Part Number	PPRV	P-Port Flange (C62)	T-Port Flange (C61)	LS-Port	P Gauge Port	T Pp Gauge Ports	Mounting Thread	Shock valve facility	PVPE/ PVPH facility	PVPP facility	OC/CC Selector
11244804	PVE 13,5 bar	Metric 1"	Metric 1-1/4"	G3/8" BSP	G3/8" BSP	G1/4" BSP	M12	Yes	No	Yes	No
11244805		SAE 1"	SAE 1-1/4"	9/16-18 UNF (SAE-6)	3/4-16 UNF (SAE-8)	7/16-20 UNF (SAE-4)					
11244780	PVH/PVHC 25 bar	Metric 1"	Metric 1-1/4"	G3/8" BSP	G3/8" BSP	G1/4" BSP					
11244781		SAE 1"	SAE 1-1/4"	9/16-18 UNF (SAE-6)	3/4-16 UNF (SAE-8)	7/16-20 UNF (SAE-4)					

PVP 128 OC/CC Variants

Part Number	PPRV	P-Port Flange (C62)	T-Port Flange (C61)	LS-Port	P Gauge Port	T and Pp Gauge Ports	Mounting Thread	Shock Valve facility	PVPE/ PVPH facility	PVPP facility	OC/CC Selector
11215893	PVE 13,5 bar	Metric 1"	Metric 1-1/4"	G3/8" BSP	G3/8" BSP	G1/4" BSP	M12	Yes	Yes[1]	Yes	Yes
11215895		SAE 1"	SAE 1-1/4"	9/16-18 UNF (SAE-6)	3/4-16 UNF (SAE-8)	7/16-20 UNF (SAE-4)					
11243703	PVH/PVHC 25 bar	Metric 1"	Metric 1-1/4"	G3/8" BSP	G3/8" BSP	G1/4" BSP					
11243704		SAE 1"	SAE 1-1/4"	9/16-18 UNF (SAE-6)	3/4-16 UNF (SAE-8)	7/16-20 UNF (SAE-4)					

[1] If PVPE/PVPH is not required, inlet selection must include PVPD part number on specification sheet

OC256

Part Number	Ports	Mounting Thread	Shock Valve facility	PVPE/PVPH facility	PVPP facility	OC/CC Selector	T0 Passage (thru)
11217812	None	None	No	Yes[1]	No	Yes	Yes

[1]

If PVPE/PVPH is not required, module selection must include PVPD part number on specification sheet

PVPE/PVPH/PVPD

Part Number	Part Name	Actuation Type	Connection
11271986	PVPE	12V	1x4 DIN
11272287	PVPE	24V	1x4 DIN
11272266	PVPE	12V	1x2 Deutsch
11278656	PVPE	24V	1x2 Deutsch
11272294	PVPH	Hydraulic	G1/4 BSP Port
11272239	PVPD[1]	None	None

[1] If PVPE/PVPH is not required, inlet/module selection must include PVPD part number on specification sheet

PVPP

Part Number	Part Name	Actuation type	Connection
11160318	PVPP	12V	1x4 DIN
11160319	PVPP[1]	24V	1x4 DIN

[1] If PVPP is not required, leave PVPP field blank on specification sheet

Specification Template for PVP128 OC Inlets

All indicated fields must be populated with a valid part number or relief setting, with the exception of field 8 (neglect this field if PVPP is not required).

1		2	PVP128 OC	3		4	
5	PVLP	6	LSRV setting (bar)	7		8	PVPP
9	PVLP	19		11		12	

Specification Template for PVP128 OC/CC Inlets

All indicated fields must be populated with a valid part number or relief setting, with the exception of field 8 (neglect this field if PVPP is not required).

1		2	PVP128 OC/CC	3	PVPD/PVPE/PVPH	4	
5	PVLP	6	LSRV setting (bar)	7		8	PVPP
9	PVLP	19		11		12	

Specification Template for OC256 Module

All indicated fields must be populated with a valid part number or relief setting.

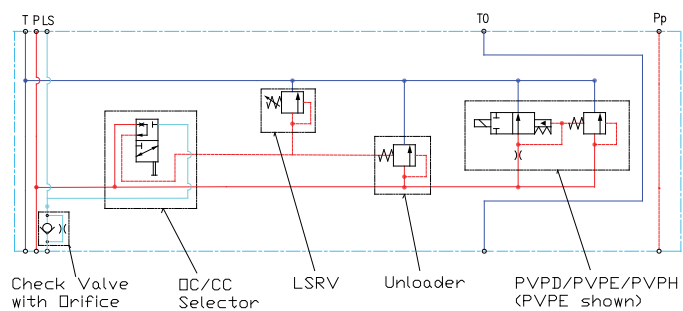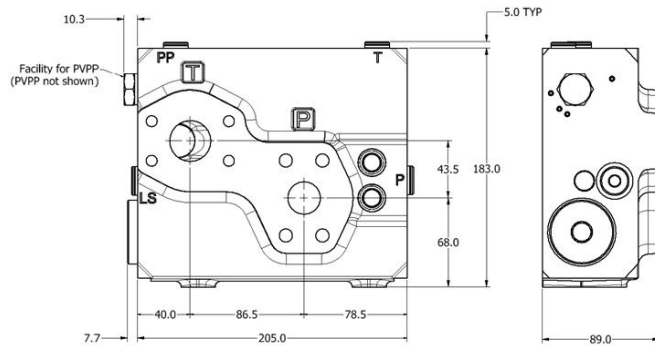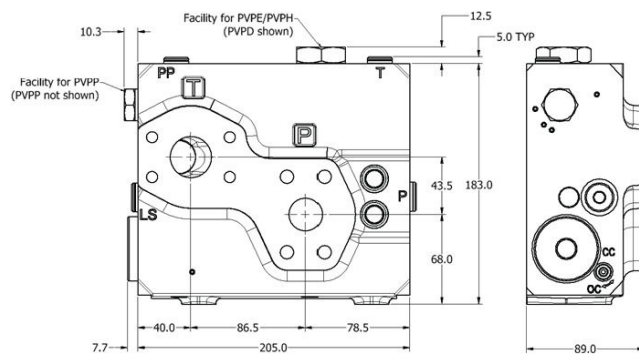| 1		2	OC256	3	PVPD/PVPE/PVPH	4	
5		6	LSRV setting (bar)	7		8	
9		19		11		12	

PVP128 OC
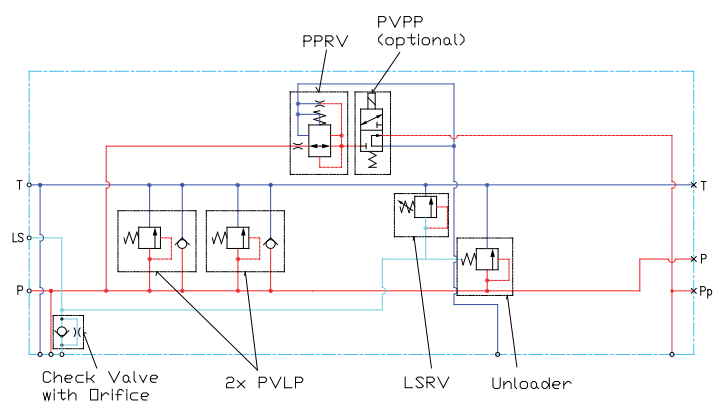
PVP128 OC/CC

OC256

PVP128 OC

PVP128 OC/CC

OC256

AI470705498717en-000101