

# NEW

## PWLS

Variable Displacement Piston Pumps

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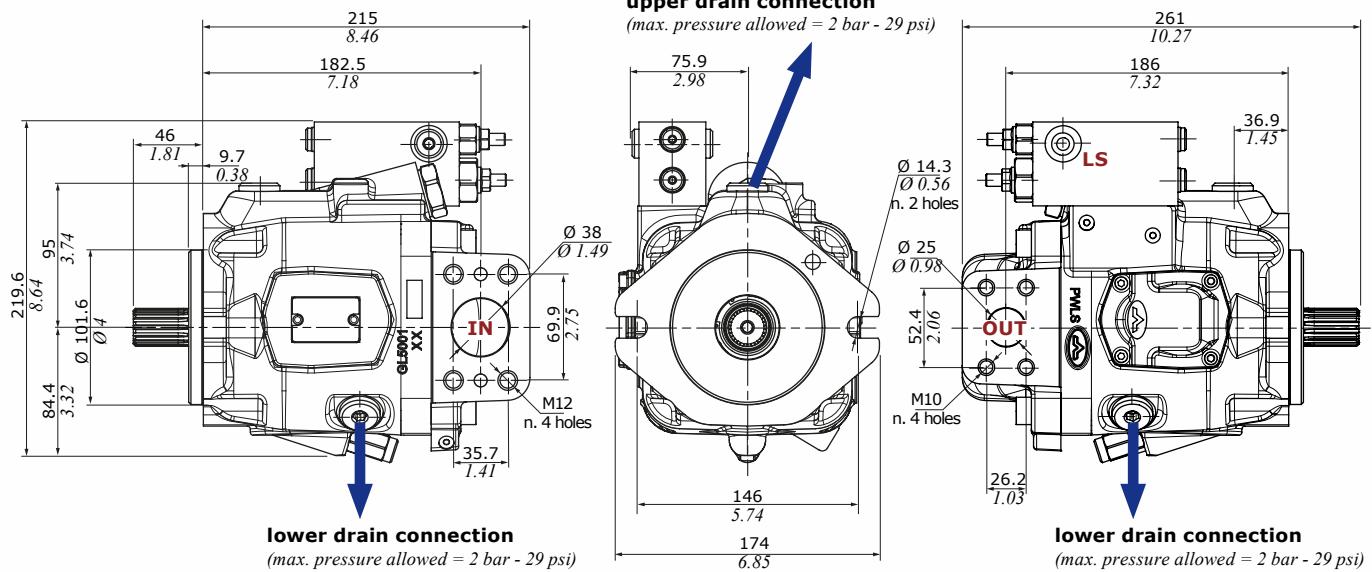


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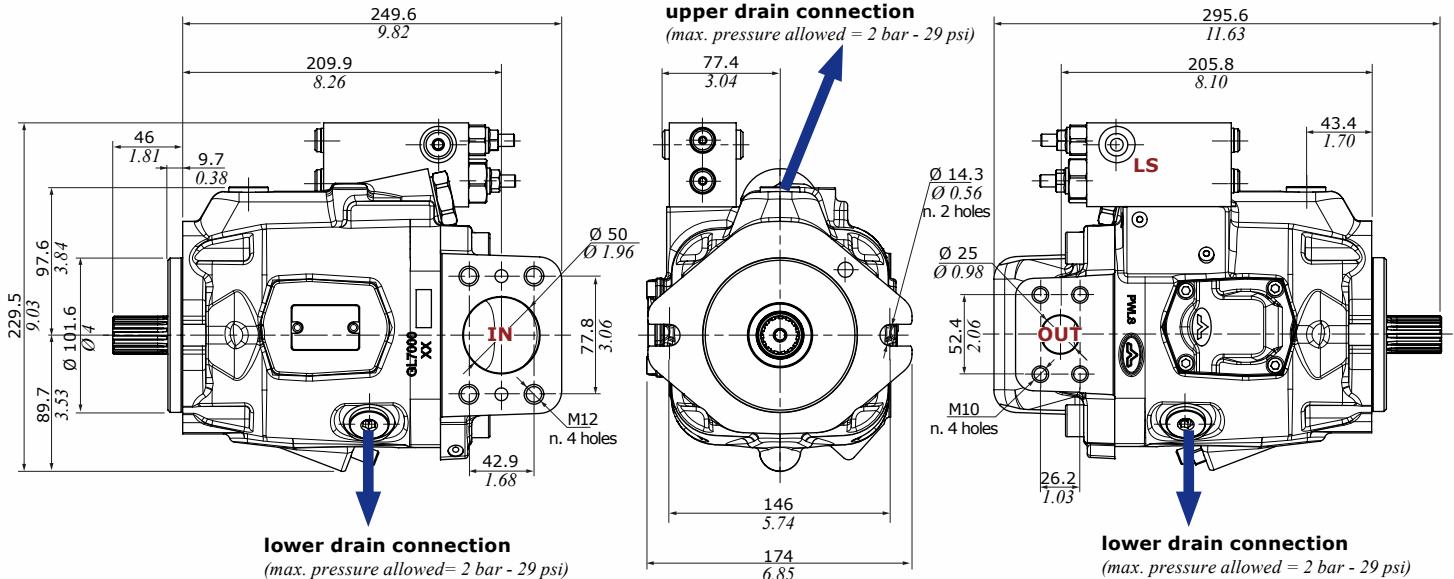
## Dimensions

The dimensional drawings represent the version with **SAEB** flange (for other flanges, please contact our Sales Department).

### PWLS5 pump



### PWLS7 pump



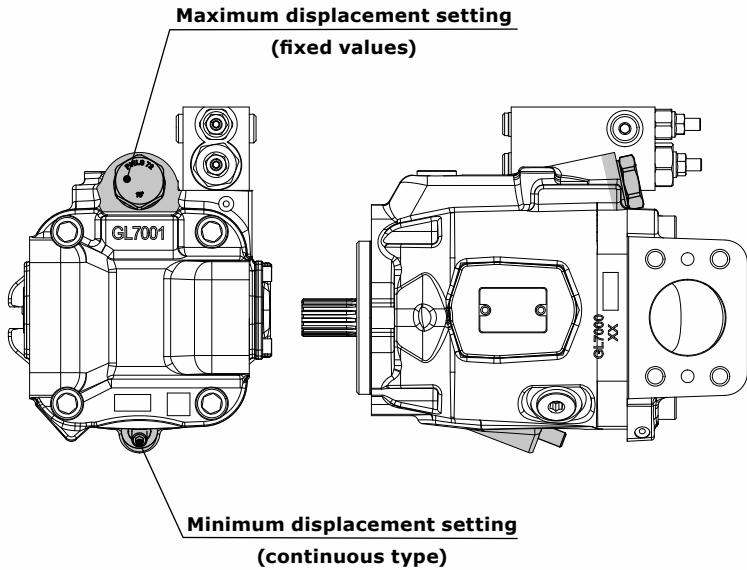
**Note:** PWLS pumps have to be connected to a separate drain.

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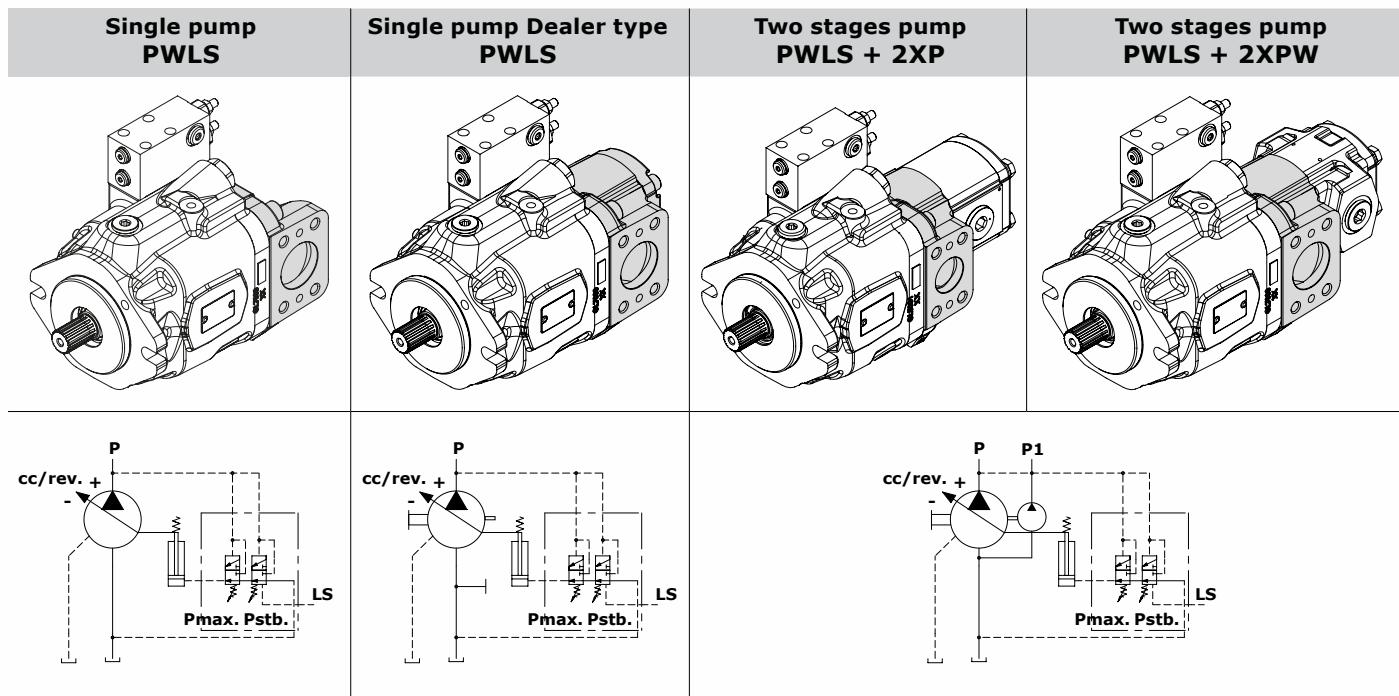
## Displacement set-up

### PWLS7 example



	Maximum displacement setting		Minimum displacement setting	
	cm <sup>3</sup> /rev	in <sup>3</sup> /rev	cm <sup>3</sup> /rev	in <sup>3</sup> /rev
<b>PWLS5</b>	min.	41	2.50	from 0 to 10 from 0 to 0.61
		44	2.68	
		47	2.86	
		50	3.05	
	std.	53	3.23	
	max.	56	3.41	
<b>PWLS7</b>	min.	56	3.41	from 0 to 10 from 0 to 0.61
		60	3.66	
		64	3.90	
		68	4.15	
	std.	72	4.39	
		76	4.63	
	max.	80	4.88	

## Cover options



# NEW

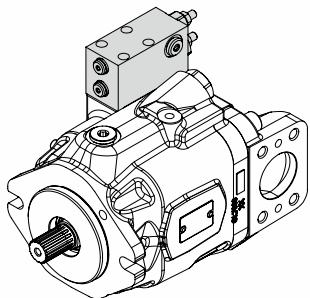
## Displacement control options

PWLS product range is now available with three different type of displacement control.

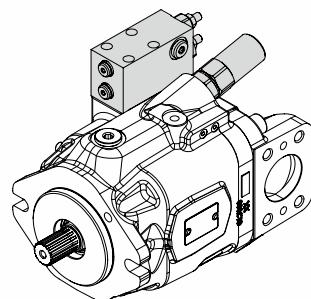
LS control is the traditional load sensing control, aimed to keep a constant pressure margin through the main control valve. In this kit a max pressure limiter is also included, able to minimize the displacement in case of setting pressure reached by the actuator.

LS-TL control complete the offer of LS control. The additional torque limiter reduces automatically the displacement of the pump in case high torque is required by the circuit. This function is used to prevent stall of the thermal engine. ALS control gives the ECU the possibility to adjust the operating displacement in order to follow a determined displacement or a virtual pressure margin. This feature allows to reduce energy consumption in idle speed and to be more precise in the actuation when needed by the operator.

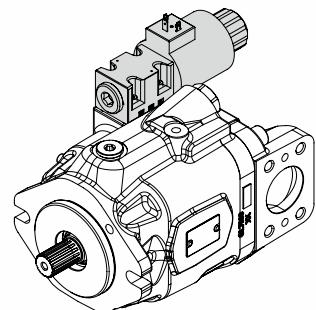
**LS**  
**Load Sensing system**



**LS-TL**  
**Mechanical torque control**



**ALS**  
**Adaptive Load Sensing system**



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## Swashplate window

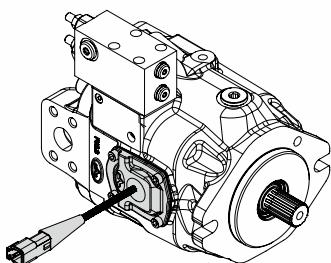
All PWLS pumps have the predisposition for sensor installations.

Three type of sensors can be individually or simultaneously connected to the side of the pump.

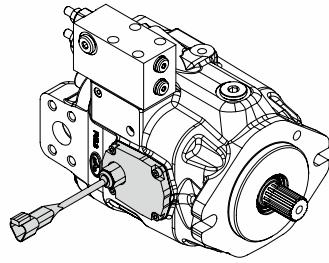
The swashplate angle is measured to evaluate the pump operating displacement. In the same cavity also the speed of the pump can be measured, providing to the ECU all the information about the delivered flow rate. A third pressure sensor allows to measure the pressure of the delivered flow.

All together these three indicators permit to evaluate the torque and the power request from the implement during operations.

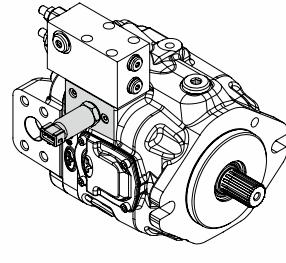
**Angle sensor**



**Speed sensor**



**Working pressure sensor**



## Ports and connections

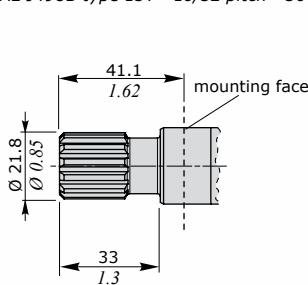
Type		Suction port (Inlet)	Delivery port (Outlet)	Drain ports (x3)
<b>PWLS5</b>	<b>F114F1G12</b>	1"1/2 (ISO 6162-1) 4 x M12x1.75 (depth 20) Ø 38	1" (ISO 6162-1) 4 x M10x1.5 (depth 18) Ø 25	BSP 1/2" 3/4-16 UNF (SAE8)
<b>PWLS7</b>	<b>F2F1U10</b>	2" (ISO 6162-1) 4 x M12x1.75 (depth 20) Ø 50	1" (ISO 6162-1) 4 x M10x1.5 (depth 18) Ø 25	BSP 3/4" 7/8-14 UNF (SAE10)

For other connections, please contact our Sales Department

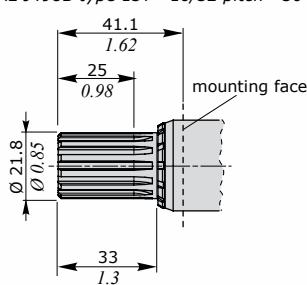
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## Shaft features

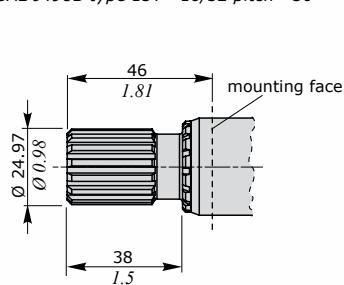
**S13 type**  
(only for PWLS5)  
Torque 280 Nm / 206 ft-lbs  
Spline:  
SAE J498B type 13T - 16/32 pitch - 30°



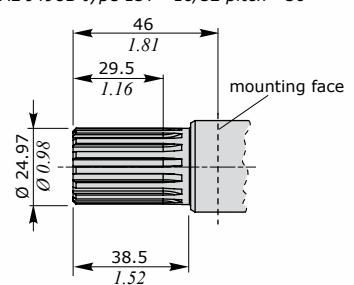
**S13N type**  
(only for PWLS7)  
Torque 300 Nm / 221 ft-lbs  
Spline:  
SAE J498B type 13T - 16/32 pitch - 30°



**S15 type**  
Torque 400 Nm / 296 ft-lbs  
Spline:  
SAE J498B type 15T - 16/32 pitch - 30°

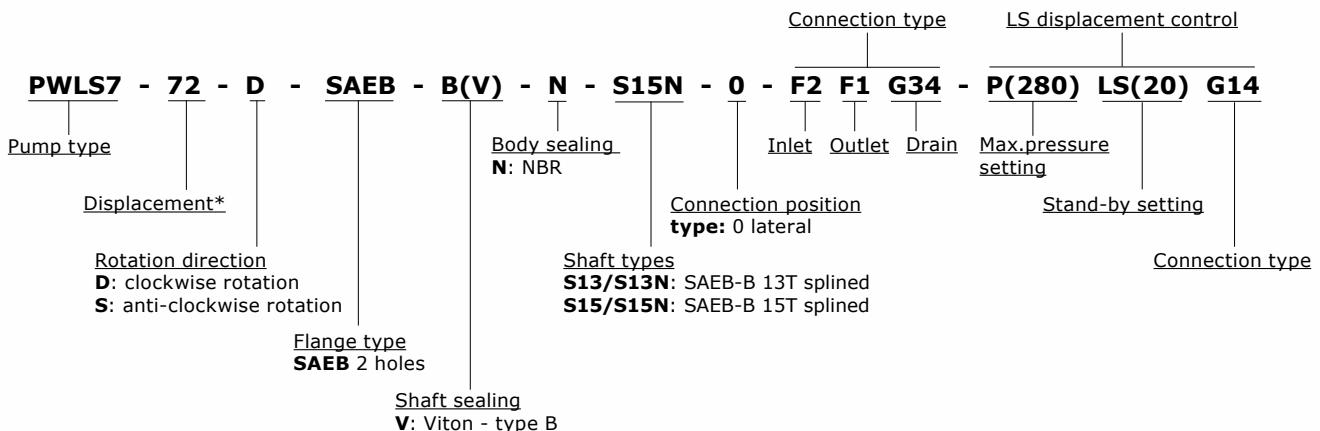


**S15N type**  
Torque 420 Nm / 309 ft-lbs  
Spline:  
SAE J498B type 15T - 16/32 pitch - 30°



For other shaft options, please contact our Sales Department

## Description composition



(\* ) for displacement types, see  
"technical data" table



D1WWCM04E - 2<sup>nd</sup> edition June 2023

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