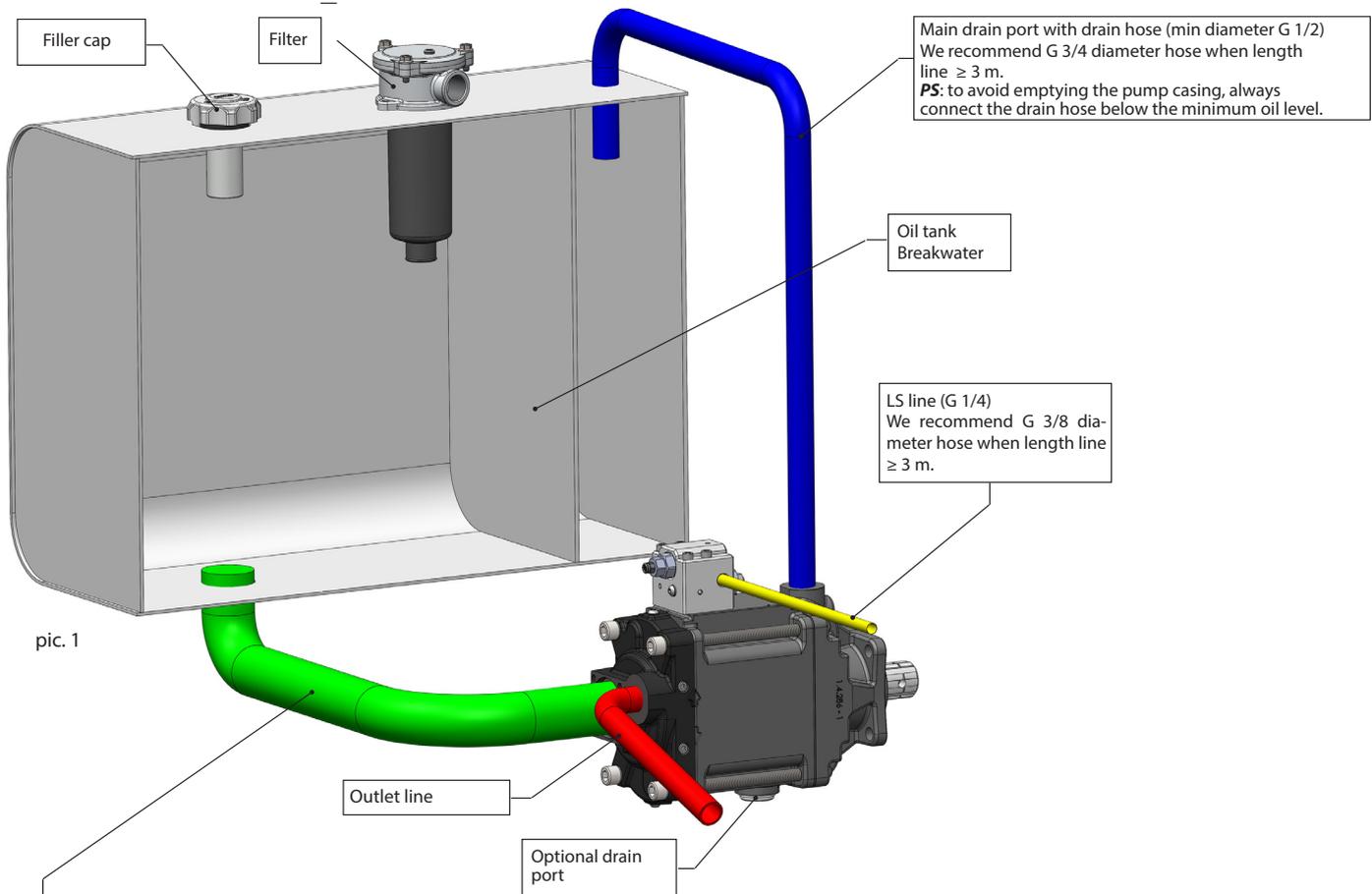


1. Make sure all the components are clean and there are no external contaminations inside.
2. Connect hoses (pic. 1) and fulfill the pump (pic. 2)
3. During first start-up run the pump with delivery pressure between 50 and 100 bar for at least 10 min.
4. Please adjust set-up according settings on page 7 if needed.
5. In case of low temperature the pump has to run without load until the oil reaches a proper viscosity (fluid page 6).



		Ø SUCTION HOSE [mm]							
Series	Displacement [cc]	Speed							
		800	1000	1200	1400	1600	1800	2000	2200
PPV	60	50							
	90	50	60						
	110	60			63				
	130	63		76					

HYDRAULIC FLUID					
Fluid	Mineral or synthetic compatible with the following seals: HNBR				
Allowed temperature range	-25 +80 °C				
Kinematic viscosity suggested	Viscosity index suggested (°C)	< -40	-40÷10	10÷35	> 35
	VG (cSt = mm ² /s)	16	22	32	46
Optimale kinematic viscosity	VG= 10 cSt ÷ 100 cSt				
Max kinematic viscosity suggested at start-up	VG= 750 cSt				
Viscosity index suggested	VI > 100				

FILTRATION			
Working pressure (bar)	ΔP<140	140<ΔP<210	ΔP>210
Contamination class NAS 1638	9	8	7
Contamination class ISO 4406-1999	20/18/15	19/17/14	18/16/13
To be obtained with filter β _x >75 according ISO 16889	10 μm		

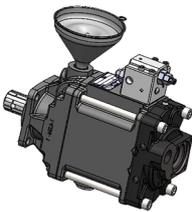
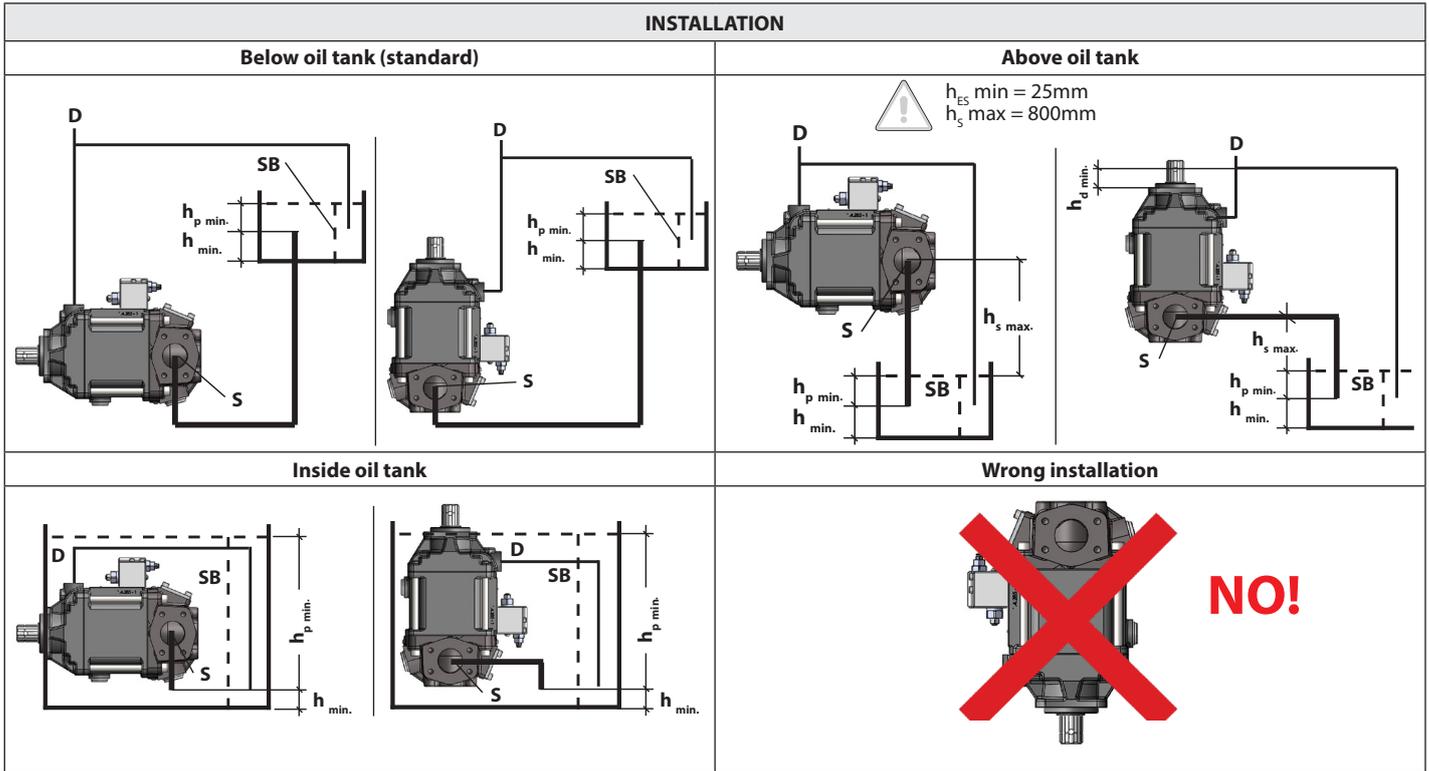
PUMP FILLING		
Please full fill at least 80% capacity volume before pump start-up		
	PPV 60-90-110 total capacity	800ml
	PPV 130 total capacity	900ml

fig. 2

N.B. : our Technical Service is at your complete disposal for any further information.



LEGENDA	
D	Filling / Drainage
S	Suction
SB	Oil tank breakwater
$h_{p.min.}$	Pump depth inside oil tank (200mm)
$h_{min.}$	Min. distance from oil tank bottom (100mm)
$h_{d.min.}$	Min. height to prevent PPV body emptying (25mm)
$h_{s.max.}$	Max. allowed suction height (800mm)

LS VALVE

LS valve
Standard setting: 25bar
Setting: 15bar/rev.

13 mm
4 mm

Increase LS Valve setting to increase pump reactivity.

RELIEF VALVE

Relief valve setting
Standard setting: 330bar
Setting: 80 bar/rev.

8 mm
2.5 mm

SETTING "ADJUSTABLE" VERSIONS

PPV 60-90-110 ADJ

19 mm

The **ADJUSTABLE** rear screw, allowed the operator to set the pump displacement.

DISPLACEMENT	60cc	90cc	110cc
Set-up range	40 - 60 cm ³	55 - 90 cm ³	85 - 110 cm ³
Setting	4,3 cm ³ /rev	5,7 cm ³ /rev	6,6 cm ³ /rev

PPV 130 ADJ

The **ADJUSTABLE** front screw, allowed the operator to set the pump displacement.

19 mm

DISPLACEMENT	130cc
Set-up range	90 - 130 cm ³
Setting	12 cm ³ /rev