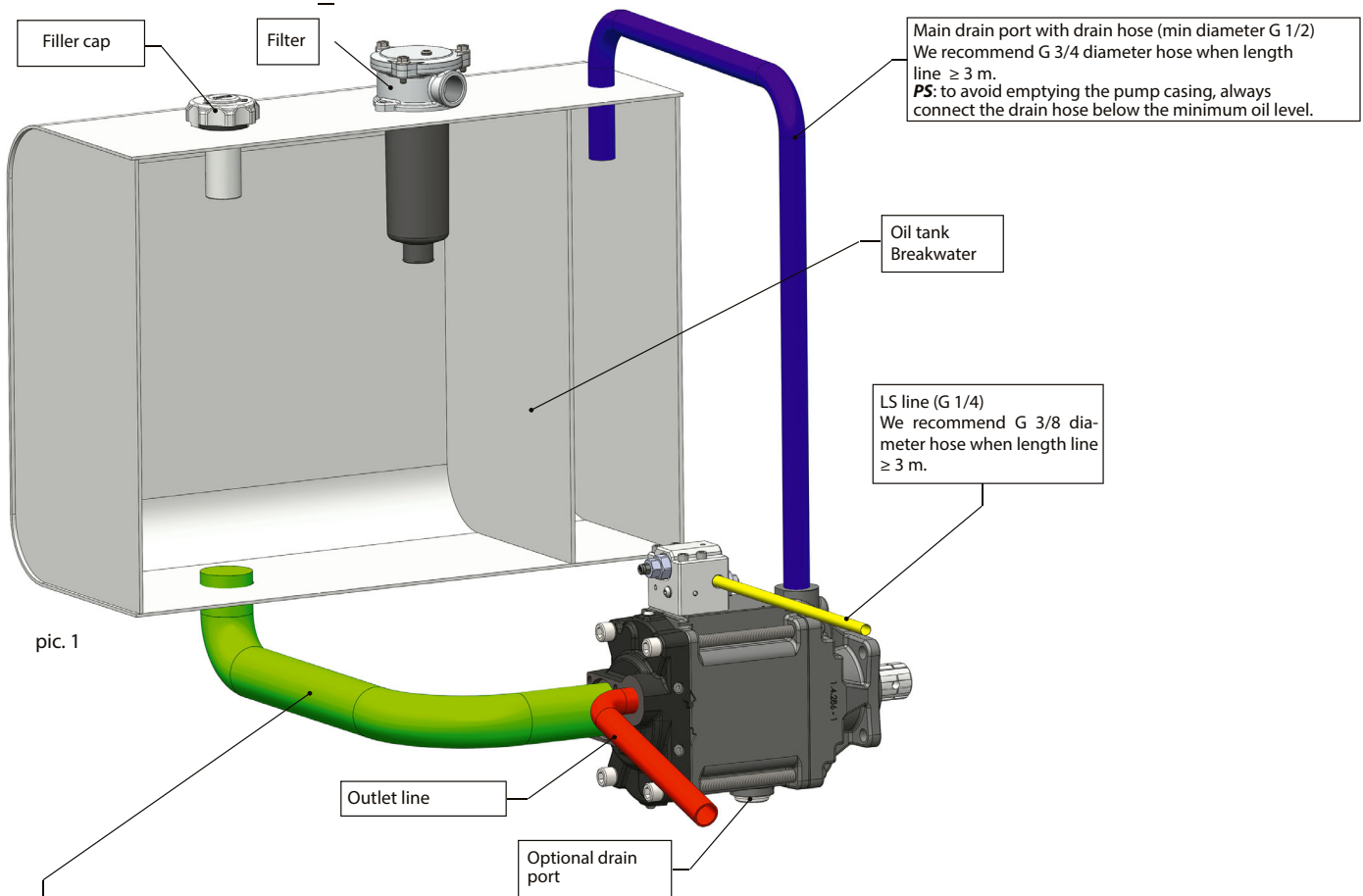


1. Make sure all the components are clean and there are no external contaminations inside.
2. Connect hoses (pic. 1) and fulfill the pump (pic. 2)
3. During first start-up run the pump with delivery pressure between 50 and 100 bar for at least 10 min.
4. Please adjust set-up according settings on page 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
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		

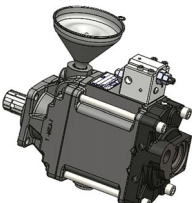
PUMP FILLING		
Please full fill at least 80% capacity volume before pump start-up		
	PPV 60-90-110 total capacity	800ml
	PPV 130 total capacity	900ml

fig. 2

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

INSTALLATION	
Below oil tank (standard)	Above oil tank
Inside oil tank	Wrong installation

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 emptyng (25mm)
h_{s max}	Max. allowed suction height (800mm)

LS VALVE
<p>LS valve Standard setting: 25bar Setting: 15bar/rev.</p> <p> 13 mm 4 mm</p> <p> Increase LS Valve setting to increase pump reactivity.</p>

RELIEF VALVE
<p>Relief valve setting Standard setting: 330bar Setting: 80 bar/rev.</p> <p> 10 mm 3 mm</p>

SETTING "ADJUSTABLE" VERSIONS

PPV 60-90-110 ADJ			
The ADJUSTABLE rear screw, allowed the operator to set the pump displacement.			
19 mm			
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