



# HYDRAULIC PUMPS



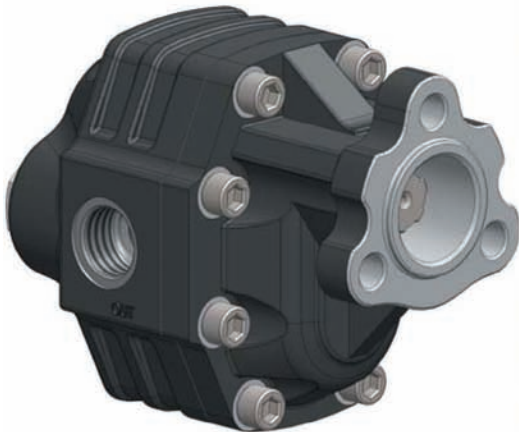
## OMFB Hydraulic Pumps

Product:	Description:	Page:
NPH UNI	3 HOLES-UNI HYDRAULIC GEAR PUMPS	6-01
LTH UNI	3 HOLES-UNI REVERSABLE HYDRAULIC GEAR PUMPS	6-03
NPH ISO	4 HOLES ISO HYDRAULIC GEAR PUMPS	6-05
LTH ISO	4 HOLES ISO REVERSABLE HYDRAULIC GEAR PUMPS	6-07
DARK UNI	3 HOLES UNI HYDRAULIC PISTON PUMPS	6-09
DARK ISO	4 HOLES ISO HYDRAULIC PISTON PUMPS	6-11
2PAK	TWIN DELIVERY 4 HOLES-ISO HYDRAULIC PISTON PUMPS	6-13
HDS 47-55-64	BENT AXLE PISTON PUMPS	6-15
HDS 84-108	BENT AXLE PISTON PUMPS 2	6-17
VDPP 90	VARIABLE DISPLACEMENT AXIAL PISTON PUMP	6-19

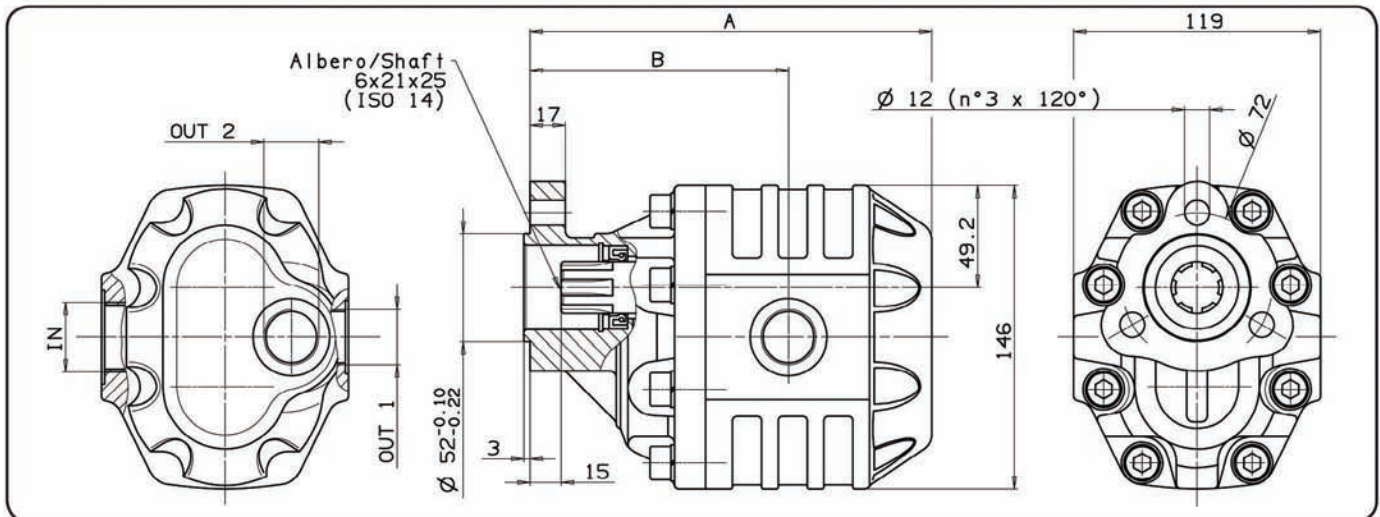


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Fluid	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -10	-10÷10	10÷35	> 35
	VG (cSt = mm <sup>2</sup> /s)	22	32	46	68
Optimale kinematic viscosity			VG= 10 cSt ÷ 100 cSt		
Max kinematic viscosity suggested at the start-up			VG= 750 cSt		
Viscosity index suggested			VI > 100		
Oil filtering			> 200 bar: 10 µm < 200 bar: 25 µm		
Inlet pressure			-0,3 ÷ 2 bar		
Pump rotation			Unidirectional (Right or Left)		



Pump type	Rotation		IN	OUT 1	OUT 2	A	B	Weight
	Right	Left						
<b>NPH-17</b>	105-011-00175	105-011-00184	ISO 228	ISO 228	ISO 228	mm	mm	Kg
<b>NPH-22</b>	105-011-00228	105-011-00237	G 1/2	G 1/2		152.5	103.5	8.5
<b>NPH-27</b>	105-011-00273	105-011-00282				156	105.5	9
<b>NPH-34</b>	105-011-00344	105-011-00353	G 3/4	G 3/4		158.5	108	9.5
<b>NPH-43</b>	105-011-00433	105-011-00442				163.5	109	10.5
<b>NPH-51</b>	105-011-00513	105-011-00522	G 1	G 3/4		169.5	114	11
<b>NPH-61</b>	105-011-00611	105-011-00620				174.5	114.5	11.5
<b>NPH-73</b>	105-011-00737	105-011-00746				180.5	120.5	12
<b>NPH-82</b>	105-011-00826	105-011-00835	G 1 1/4	G 1		188.5	119.5	12.5
<b>NPH-90</b>	105-011-00906	105-011-00915				193.5	124.5	13
<b>NPH-100</b>	105-011-01003	105-011-01012				204.5	132.5	13.5
<b>NPH-125</b>	105-011-01254	105-011-01263	G 1	G 3/4		210.5	138.5	14
						226.5	142.5	16



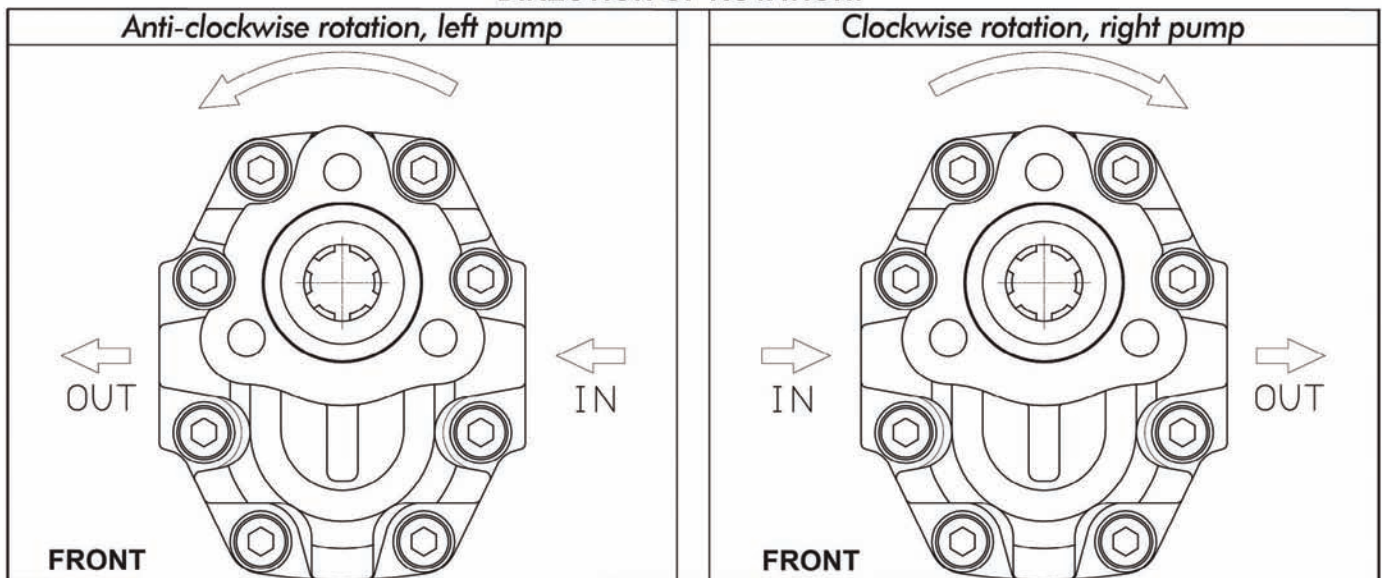
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Pump type	Displacement cm <sup>3</sup> /rev	Pressure			Max. continuous speed rpm	Max. intermittent speed rpm	Min. speed rpm
		P1 bar	P2 bar	P3 bar			
<b>NPH-17</b>	17.04	290	315	325	2500	3000	300
<b>NPH-22</b>	22.15						
<b>NPH-27</b>	26.18						
<b>NPH-34</b>	33.88	280	300	310	2200	2800	
<b>NPH-43</b>	43.12	270	290	300	2000	2500	
<b>NPH-51</b>	50.82	240	260	280			
<b>NPH-61</b>	60.06	220	240	250	1800	2000	
<b>NPH-73</b>	72.88	200	220	230			
<b>NPH-82</b>	81.08	190	210	220			
<b>NPH-90</b>	90.43	180	200	220	1500	1800	
<b>NPH-100</b>	98.18	180	200	220			
<b>NPH-125</b>	122.72	160	180	200			

Max. continuous pressure (100%)  
 Max. Intermittent pressure (20 sec.max.)  
 Max. peak pressure (6 sec.max.)

**DIRECTION OF ROTATION:**



**TO CHANGE THE DIRECTION OF ROTATION SEE SECTION .....**

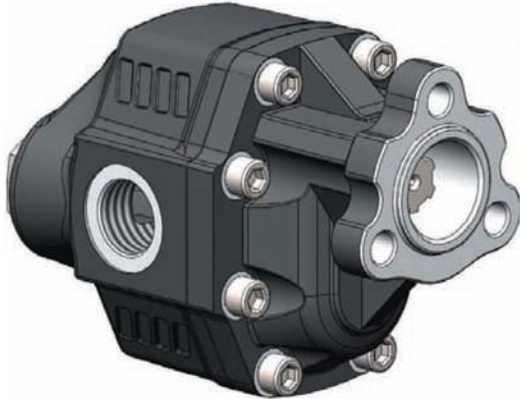
**SEAL KIT**

**NPH 17cc-82cc - 105-900-00188**  
**NPH100cc-125cc - 105-900-00320**

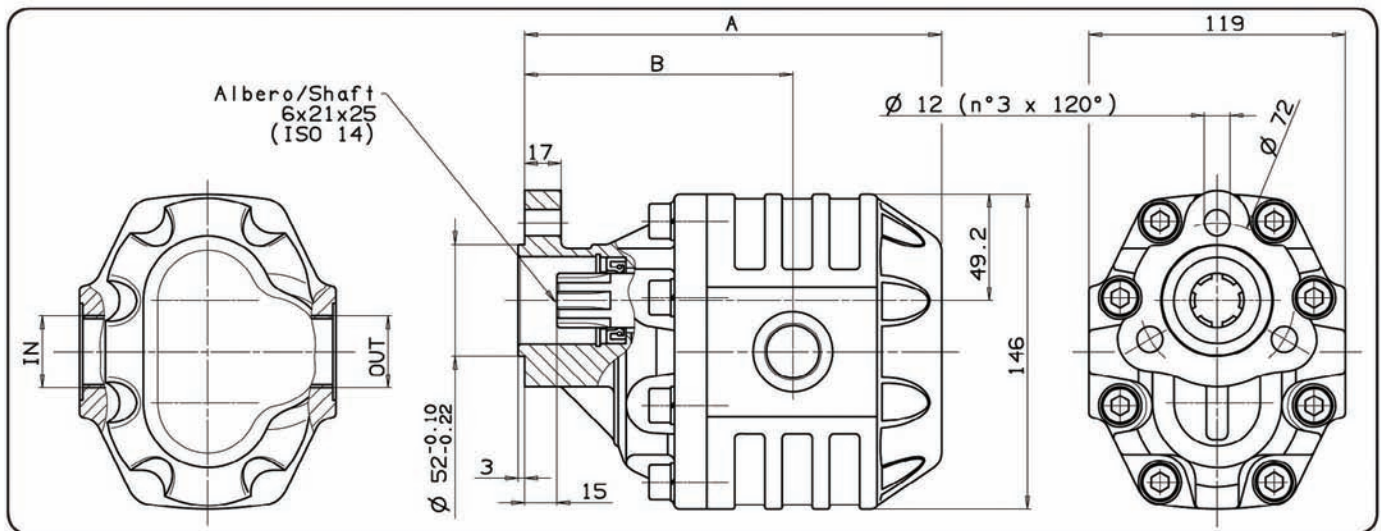


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Fluid	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -10	-10 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	22	32	46	68
Optimale kinematic viscosity	VG= 10 cSt ÷ 100 cSt				
Max kinematic viscosity suggested at the start-up	VG= 750 cSt				
Viscosity index suggested	VI > 100				
Oil filtering	> 200 bar: 10 µm < 200 bar: 25 µm				
Inlet pressure	-0,3 ÷ 2 bar				
Pump rotation	Bidirectional				



Pump type	Order code	IN	OUT	A	B	Weight
		ISO 228	ISO 228	mm	mm	Kg
<b>LTH-61</b>	105-028-00612	<b>G 1</b>	<b>G 1</b>	<b>180,5</b>	<b>120,5</b>	<b>12</b>
<b>LTH-82</b>	105-028-00827			<b>193,5</b>	<b>124,5</b>	<b>13</b>
<b>LTH-100</b>	105-028-01004	<b>G 1 1/4</b>	<b>G 1 1/4</b>	<b>210,5</b>	<b>138,5</b>	<b>14</b>



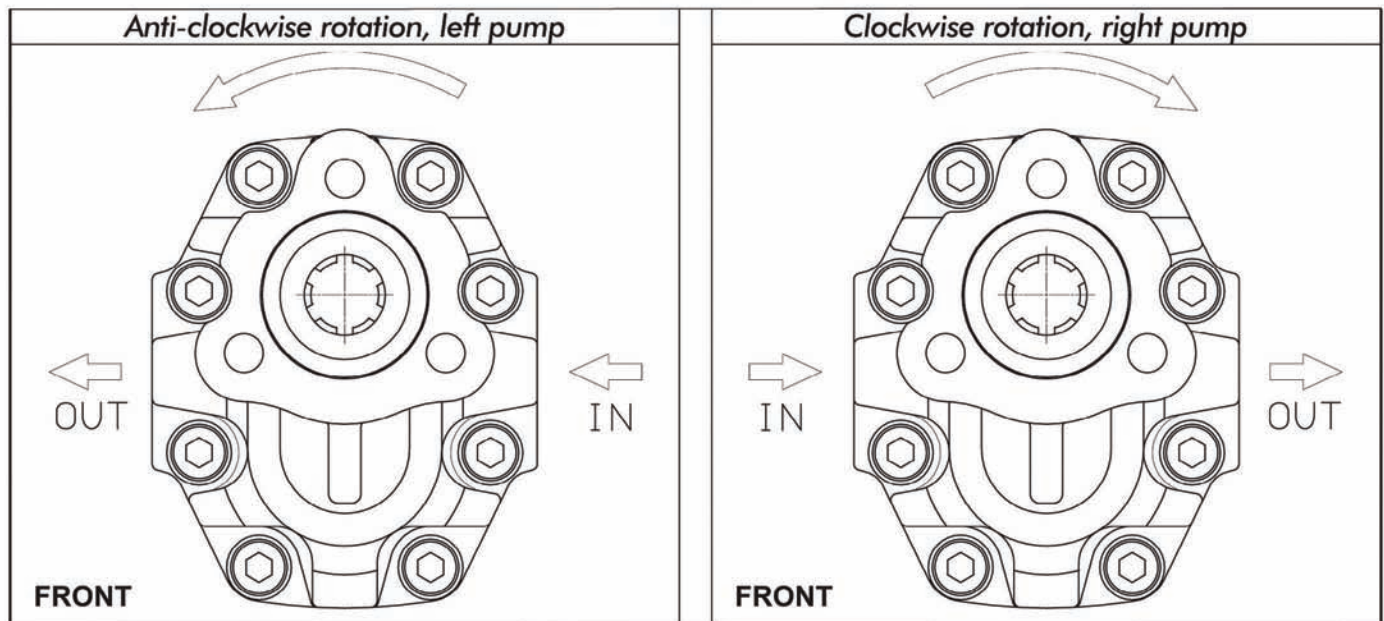
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Pump type	Displacement	P1	P2	P3	Max. continuous speed	Max. intermittent speed	Min. speed
	cm <sup>3</sup> /rev	bar	bar	bar	rpm	rpm	rpm
<b>LTH-61</b>	60,06	190	200	210	1500	1800	300
<b>LTH-82</b>	81,08	160	180	190	1400	1700	
<b>LTH-100</b>	98,18						

Max. continuous pressure (100%)  
 Max. Intermittent pressure (20 sec.max.)  
 Max. peak pressure (6 sec.max.)

**TECHNICAL FEATURES:**



**SEAL KIT - 105-900-00348**

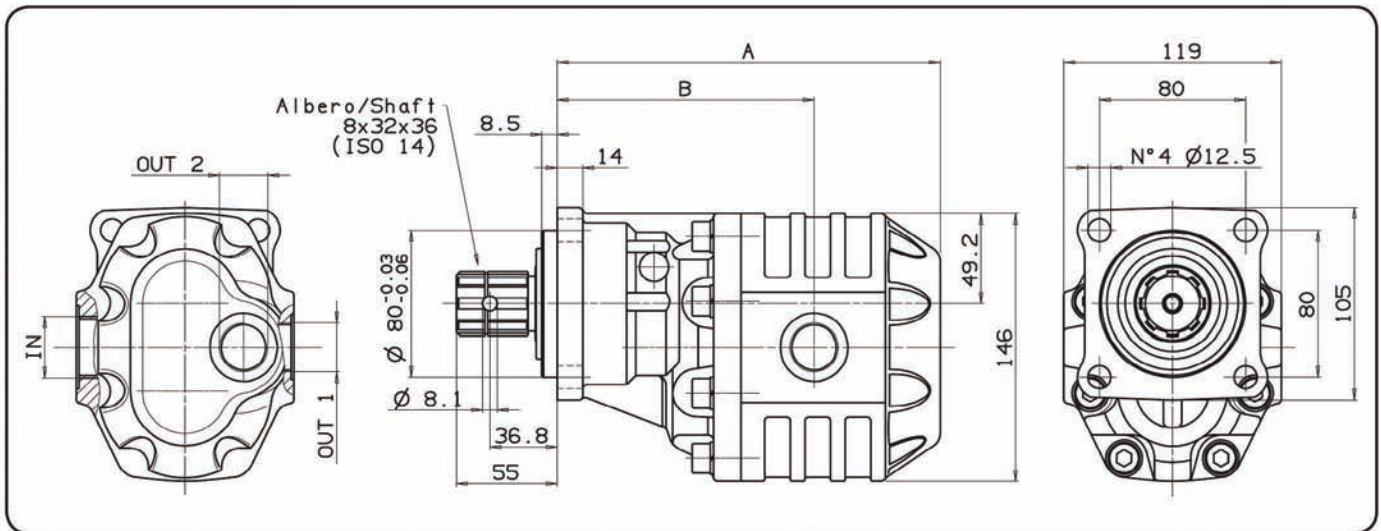


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<b>Fluid</b>	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
<b>Kinematic viscosity suggested</b>	Average ambient temp. (°C)	< -10	-10 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	22	32	46	68
<b>Optimale kinematic viscosity</b>			VG= 10 cSt ÷ 100 cSt		
<b>Max kinematic viscosity suggested at the start-up</b>			VG= 750 cSt		
<b>Viscosity index suggested</b>			VI > 100		
<b>Oil filtering</b>			> 200 bar: 10 µm < 200 bar: 25 µm		
<b>Inlet pressure</b>			-0,3 ÷ 2 bar		
<b>Pump rotation</b>			Unidirectional (Right or Left)		



Pump type	Rotation		IN	OUT 1	OUT 2	A	B	Weight
	Right	Left						
<b>NPH-17</b>	105-011-10173	105-011-10182	ISO 228	ISO 228	ISO 228	mm	mm	Kg
<b>NPH-22</b>	105-011-10226	105-011-10235	G 1/2	G 1/2		168.5	119.5	11
<b>NPH-27</b>	105-011-10271	105-011-10280				172	121.5	11.5
<b>NPH-34</b>	105-011-10342	105-011-10351	G 3/4	G 3/4		174.5	124	12
<b>NPH-43</b>	105-011-10431	105-011-10441				179.5	125	13
<b>NPH-51</b>	105-011-10511	105-011-10520	G1	G 3/4		185.5	130	13.5
<b>NPH-61</b>	105-011-10619	105-011-10628				190.5	130.5	14
<b>NPH-73</b>	105-011-10735	105-011-10744				196.5	136.5	14.5
<b>NPH-82</b>	105-011-10824	105-011-10833	G1 1/4	G 3/4		204.5	135.5	15
<b>NPH-100</b>	105-011-11001	105-011-11010				209.5	140.5	15.5
<b>NPH-125</b>	105-011-11252	105-011-11261				226.5	154.5	15
				G 1	G 3/4	242.5	158.5	17



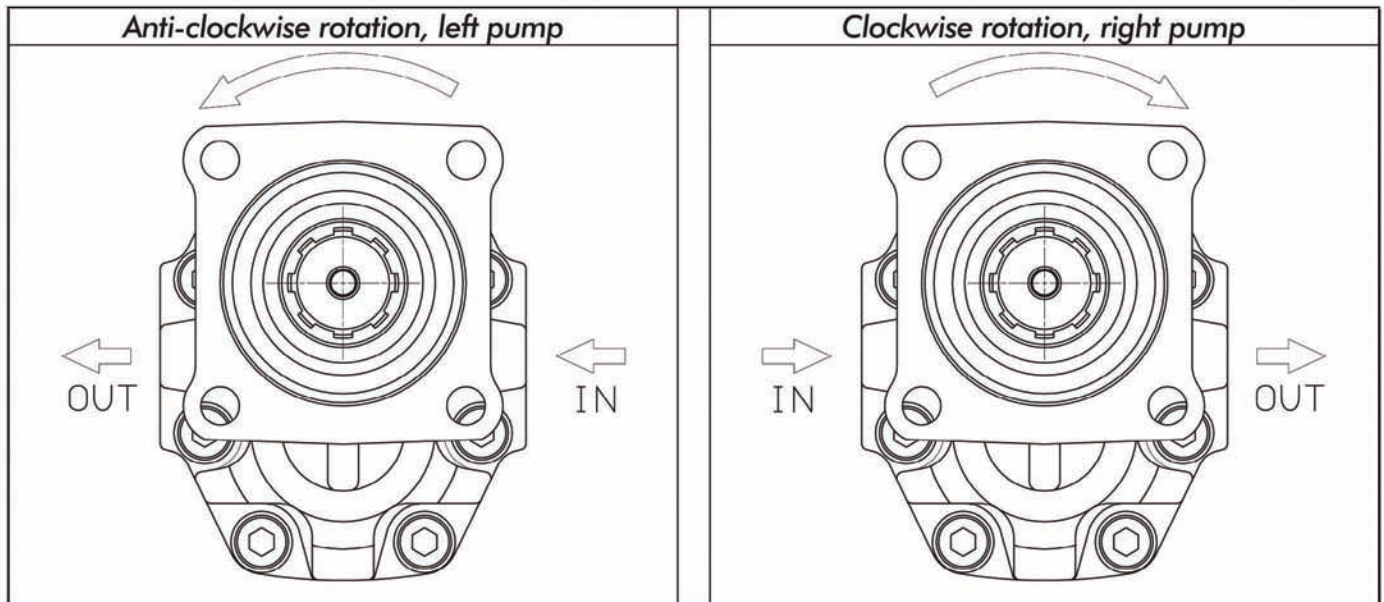
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Pump type	Displacement cm <sup>3</sup> /rev	P1 bar	P2 bar	P3 bar	Max. continuous speed rpm	Max. intermittent speed rpm	Min. speed rpm
<b>NPH-17</b>	<b>17.04</b>	290	315	325	2500	3000	300
<b>NPH-22</b>	<b>22.15</b>						
<b>NPH-27</b>	<b>26.18</b>						
<b>NPH-34</b>	<b>33.88</b>	280	300	310	2200	2800	
<b>NPH-43</b>	<b>43.12</b>	270	290	300	2000	2500	
<b>NPH-51</b>	<b>50.82</b>	240	260	280			
<b>NPH-61</b>	<b>60.06</b>	220	240	250	1800	2000	
<b>NPH-73</b>	<b>72.88</b>	200	220	230	1600	1800	
<b>NPH-82</b>	<b>81.08</b>	190	210	220	1500		
<b>NPH-100</b>	<b>98.18</b>	180	200				
<b>NPH-125</b>	<b>122.72</b>	160	180	200			

Max. continuous pressure (100%)  
 Max. Intermittent pressure (20 sec.max.)  
 Max. peak pressure (6 sec.max)

**DIRECTION OF ROTATION:**



**SEAL KIT**

**NPH 17cc-82cc - 105-900-00197**  
**NPH100cc-125cc - 105-900-00339**



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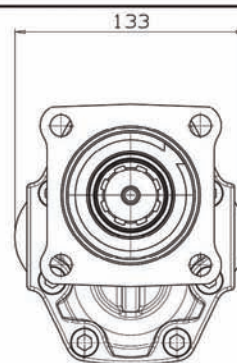
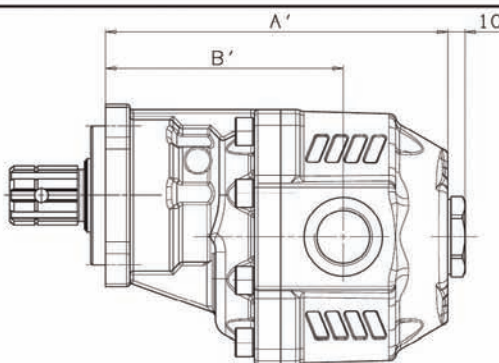
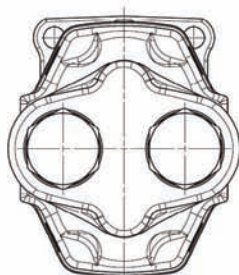




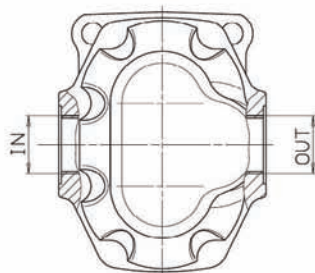


Fluid	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -10	-10÷10	10÷35	> 35
	VG (cSt = mm <sup>2</sup> /s)	22	32	46	68
Optimale kinematic viscosity			VG= 10 cSt ÷ 100 cSt		
Max kinematic viscosity suggested at the start-up			VG= 750 cSt		
Viscosity index suggested			VI > 100		
Oil filtering			> 200 bar: 10 µm < 200 bar: 25 µm		
Inlet pressure			-0,3 ÷ 2 bar		
Pump rotation			Bidirectional		

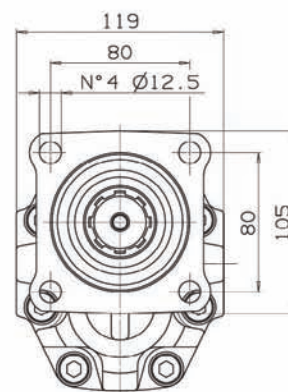
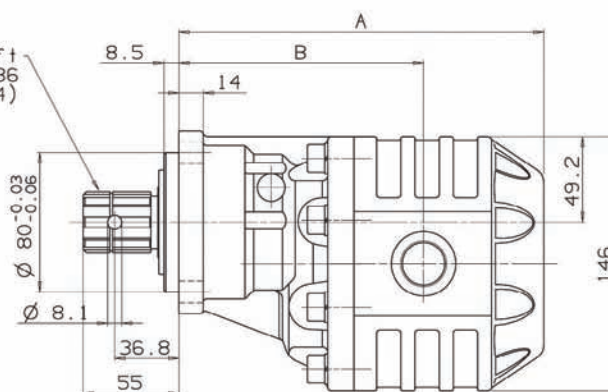
**LTH-61 - LTH-82**



**LTH-100**



Albero/Shaft  
8x32x36  
(ISO 14)



Pump type	Order code	IN	OUT	A	B	A'	B'	Weight
		ISO 228	ISO 228	mm	mm			Kg
<b>LTH-61</b>	105-028-10610	G 1	G 1			196,5	136,5	14,5
<b>LTH-82</b>	105-028-10825					209,5	140,5	15,5
<b>LTH-100</b>	105-028-11002	G 1 1/4	G 1 1/4	226,5	154,5			15



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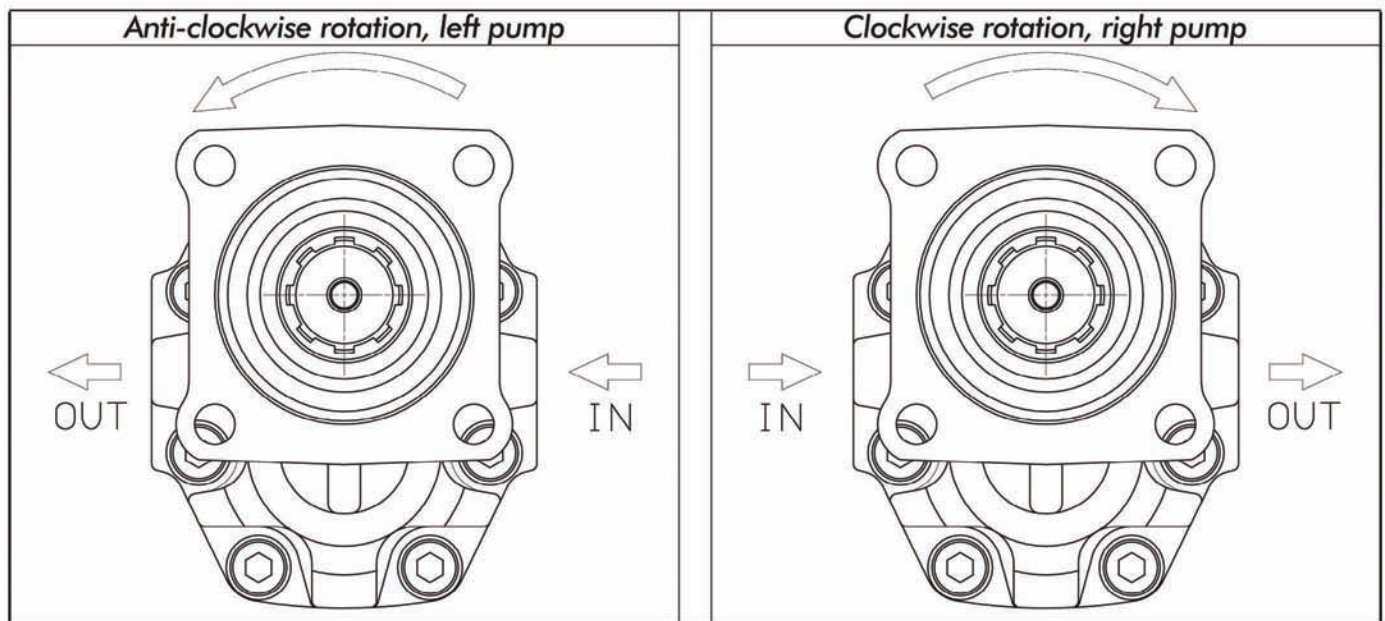


Pump type	Displacement	P1	P2	P3	Max. continuous speed	Max. intermittent speed	Min. speed
	cm <sup>3</sup> /rev	bar	bar	bar	rpm	rpm	rpm
<b>LTH-61</b>	60,06	190	200	210	1500	1800	300
<b>LTH-82</b>	81,08	160	180	190	1400	1700	
<b>LTH-100</b>	98,18						

Max. continuous pressure  
Max. Intermittent pressure  
Max. peak pressure

(100%)  
(20 sec.max.)  
(6 sec.max)

**TECHNICAL FEATURES:**



**SEAL KIT - 105-900-00357**



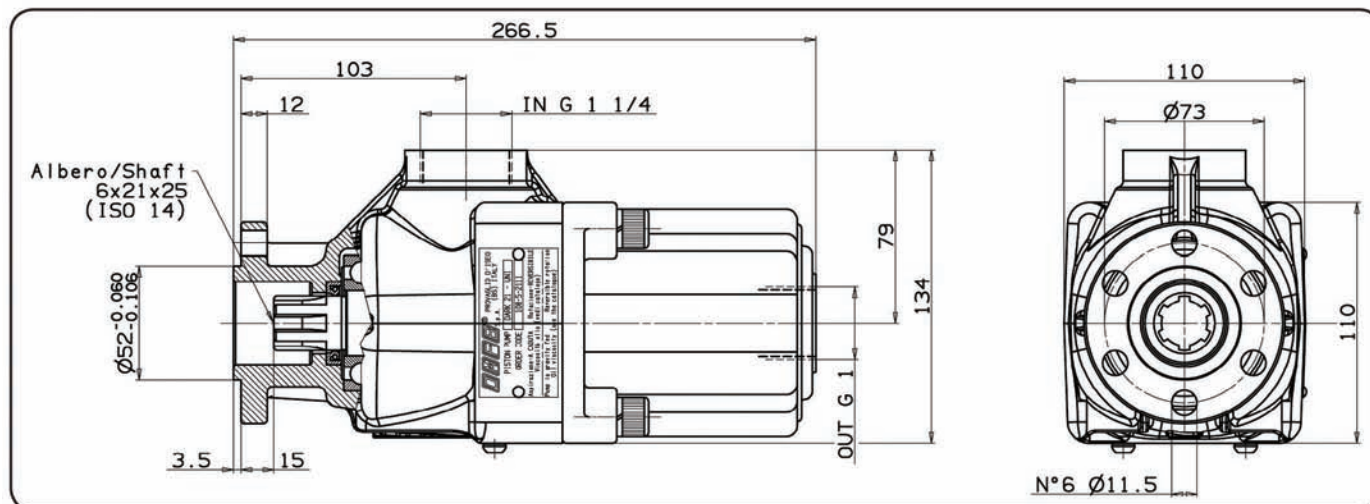
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<b>Fluid</b>	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
<b>Kinematic viscosity suggested</b>	Average ambient temp. (°C)	< -10	-10÷10	10÷35	> 35
	VG (cSt = mm <sup>2</sup> /s)	16	22	32	46
<b>Optimale kinematic viscosity</b>		VG= 10 cSt ÷ 100 cSt			
<b>Max kinematic viscosity suggested at the start-up</b>		VG= 750 cSt			
<b>Viscosity index suggested</b>		VI > 100			
<b>Oil filtering</b>		> 200 bar: 10 µm < 200 bar: 25 µm			
<b>Inlet pressure</b>		0,85 ÷ 2 bar assoluti/absolut			
<b>Pump rotation</b>		Bidirectional			

Verify that pump is, at least, 100 mm under the minimum level of the tank. Before starting the pump bleed the air.

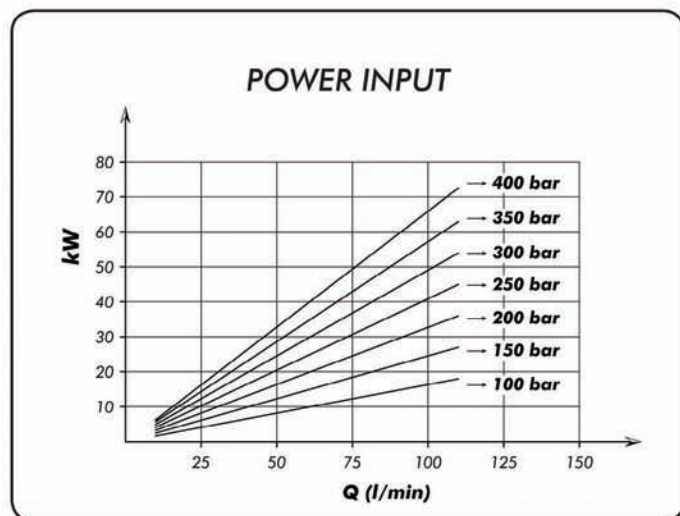
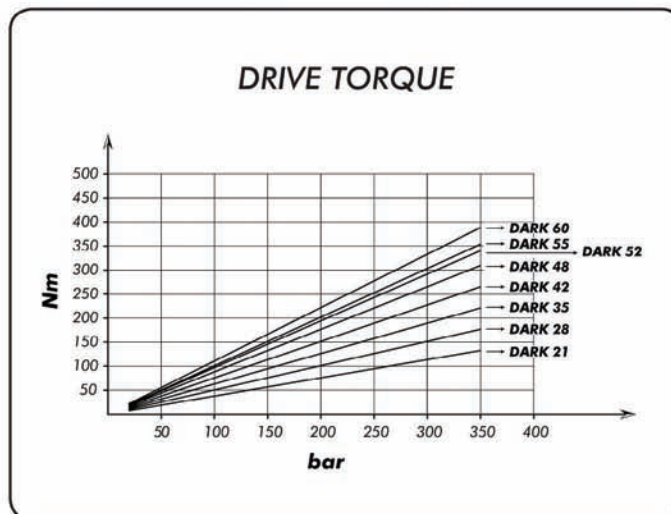
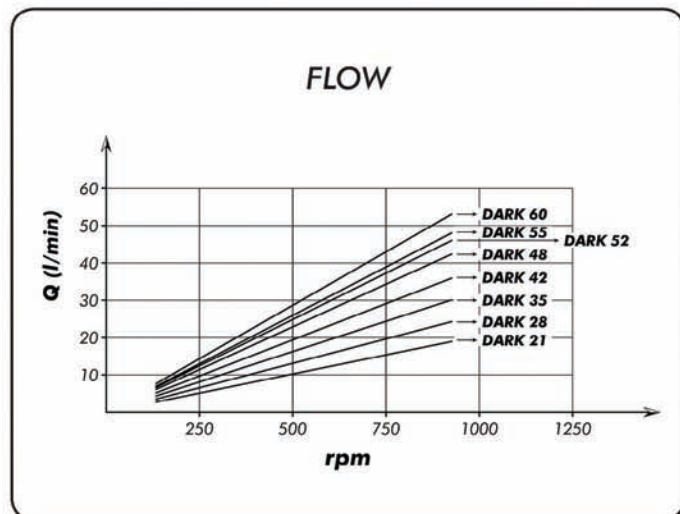


Pump type	Code	Displacement cm <sup>3</sup> /rev	Pressure		Max speed rpm	Weight kg
			Massima Max bar	Picco Peak bar		
<b>DARK-21</b>	108-005-02111	20,25	350	350	1800	13,5
<b>DARK-28</b>	108-005-02817	27				
<b>DARK-35</b>	108-005-03512	33,75				
<b>DARK-42</b>	108-005-04217	40,5				
<b>DARK-48</b>	108-005-04815	47,25				
<b>DARK-52</b>	108-005-05216	51,97	300	350	1500	13,3
<b>DARK-55</b>	108-005-05510	54				
<b>DARK-60</b>	108-005-05912	59,3				



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**SEAL KIT - 108-903-00018**

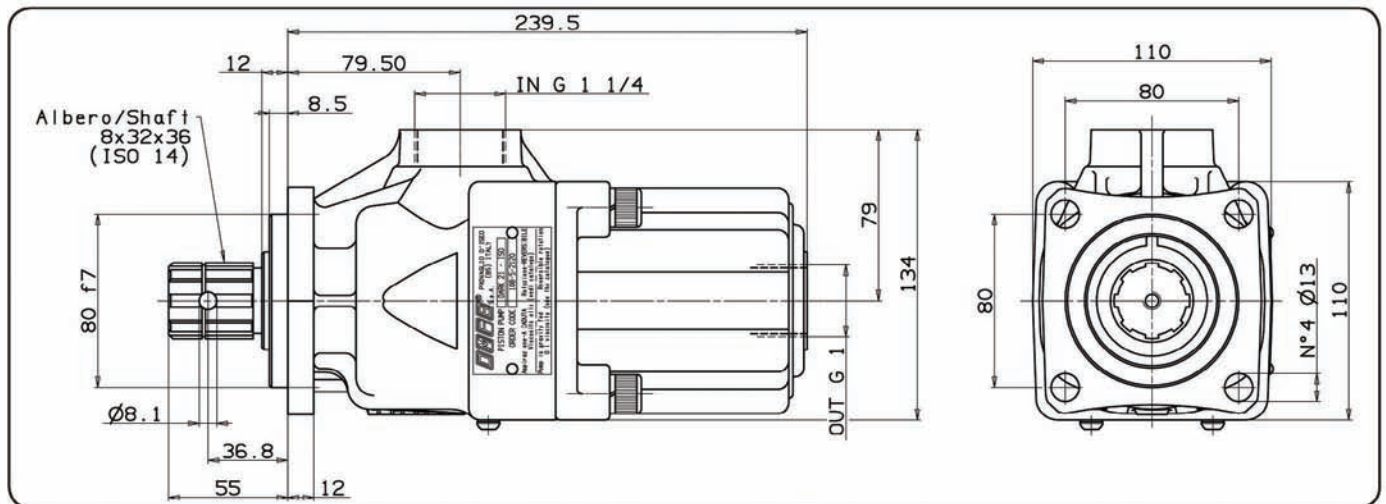


We reserve the right to make changes without notice.





Fluid	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -10	-10 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	16	22	32	46
Optimale kinematic viscosity		VG= 10 cSt ÷ 100 cSt			
Max kinematic viscosity suggested at the start-up		VG= 750 cSt			
Viscosity index suggested		VI > 100			
Oil filtering		> 200 bar: 10 µm < 200 bar: 25 µm			
Inlet pressure		0,85 ÷ 2 bar assoluti/absolut			
Pump rotation		Bidirectional			
Verify that pump is, at least, 100 mm under the minimum level of the tank. Before starting the pump bleed the air.					

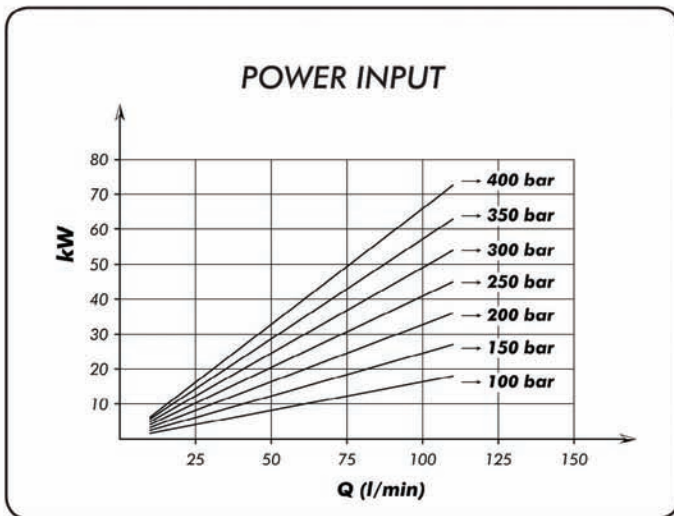
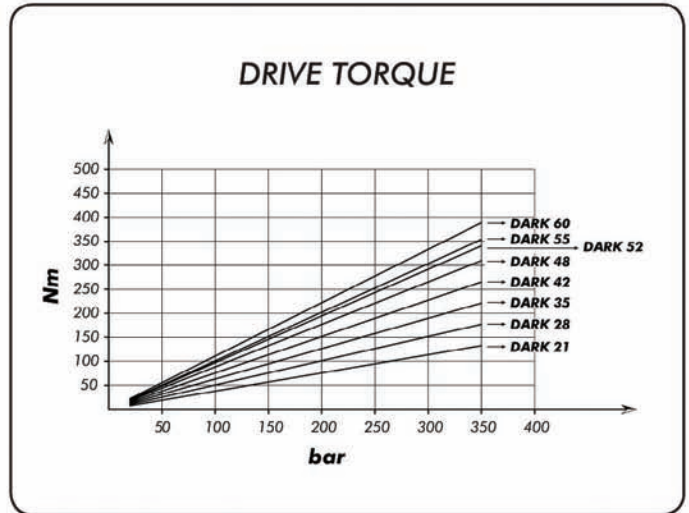
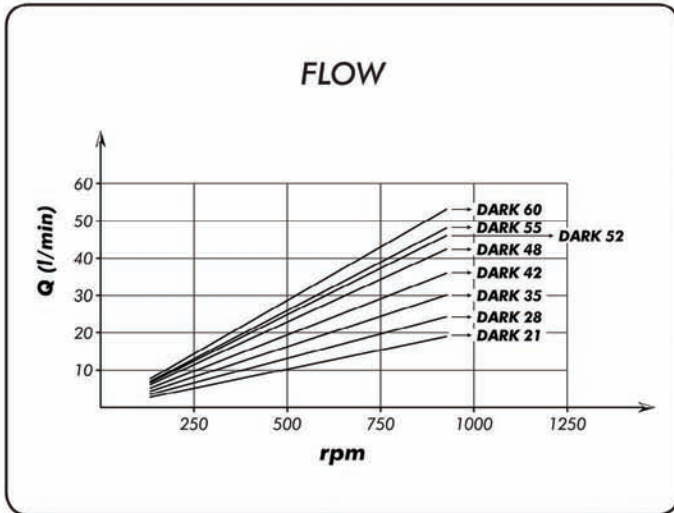


Pump type	Code	Displacement cm <sup>3</sup> /rev	Pressure		Max speed rpm	Weight kg
			Massima Max bar	Picco Peak bar		
<b>DARK-21</b>	108-005-02120	20,25	350	350	1800	14,1
<b>DARK-28</b>	108-005-02826	27				
<b>DARK-35</b>	108-005-03521	33,75				
<b>DARK-42</b>	108-005-04226	40,5				
<b>DARK-48</b>	108-005-04824	47,25				
<b>DARK-52</b>	108-005-05225	51,97	300	350	1500	13,9
<b>DARK-55</b>	108-005-05529	54				
<b>DARK-60</b>	108-005-05921	59,3				



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**SEAL KIT - 108-903-00027**



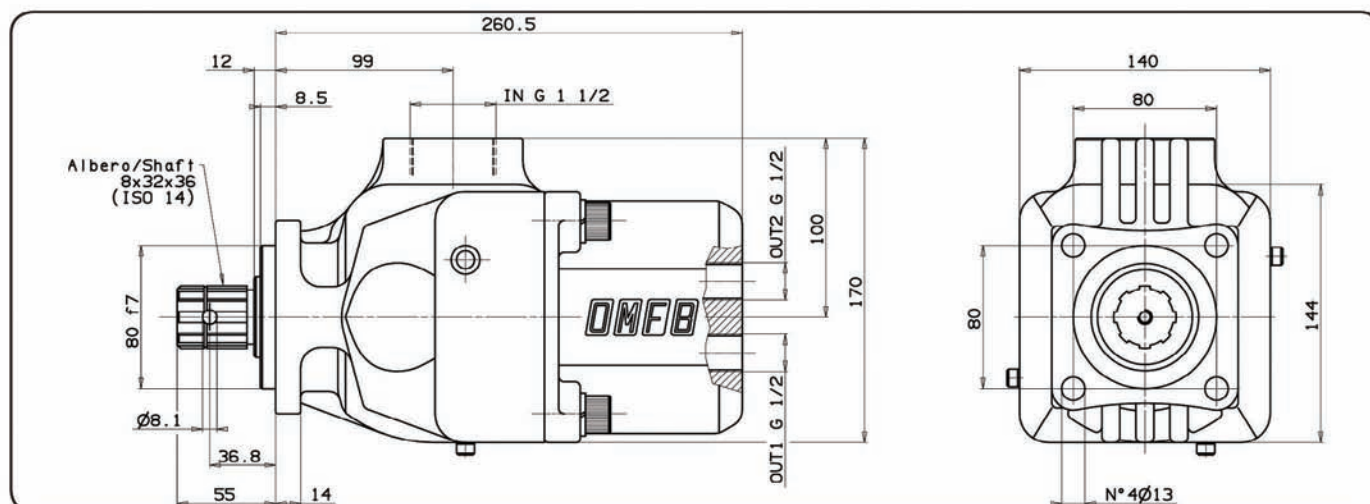
We reserve the right to make changes without notice.





Fluid	Mineral or synthetic compatible with the following seals: NBR, FKM, FPM, Nylon				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -10	-10 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	16	22	32	46
Optimale kinematic viscosity			VG= 10 cSt ÷ 100 cSt		
Max kinematic viscosity suggested at the start-up			VG= 750 cSt		
Viscosity index suggested			VI > 100		
Oil filtering			> 200 bar: 10 µm < 200 bar: 25 µm		
Inlet pressure			0,85 ÷ 2 bar assoluti/absolut		
Pump rotation			Bidirectional		

Verify that pump is, at least, 100 mm under the minimum level of the tank. Before starting the pump bleed the air.

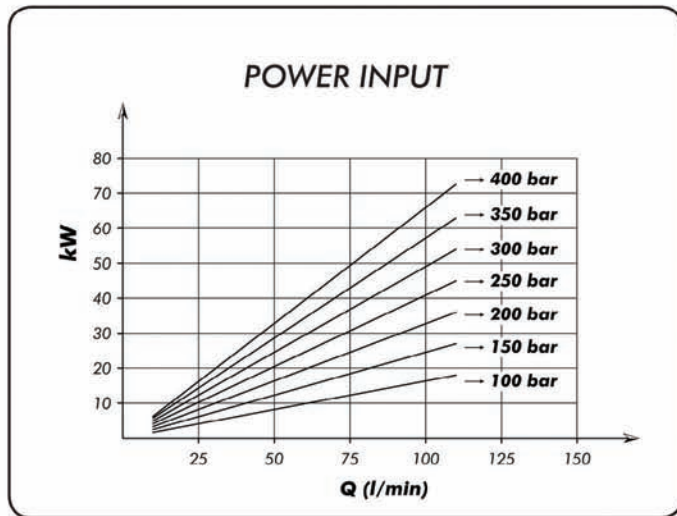
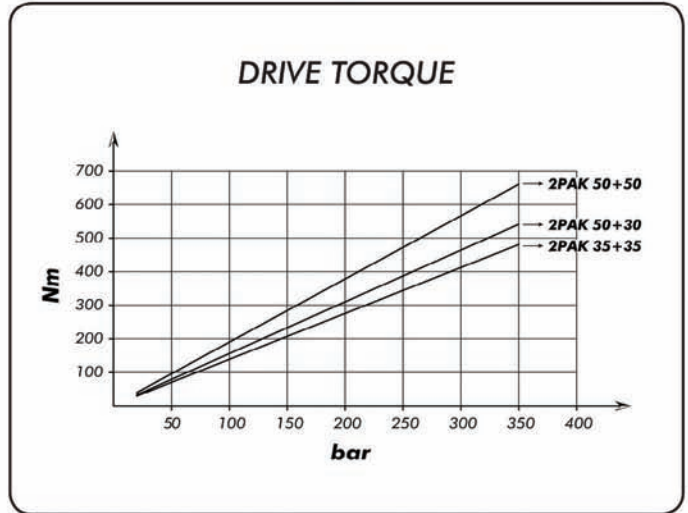
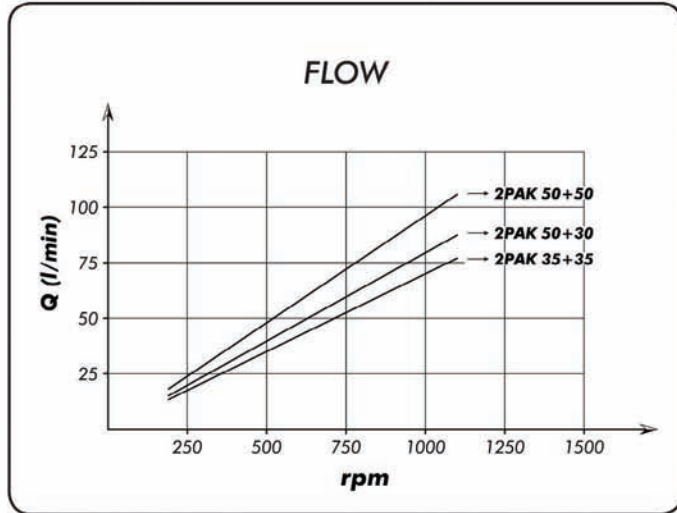


Pump type	Code	Displacement cm <sup>3</sup> /rev	Pressure		Max speed rpm	Weight kg
			Massima Max bar	Picco Peak bar		
2PAK-35+35	108-008-35351	35+35	300	350	1500	21,4
2PAK-50+30	108-008-50307	50+30				21,2
2PAK-50+50	108-008-50503	50+50				



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SEAL KIT - 108-903-00036



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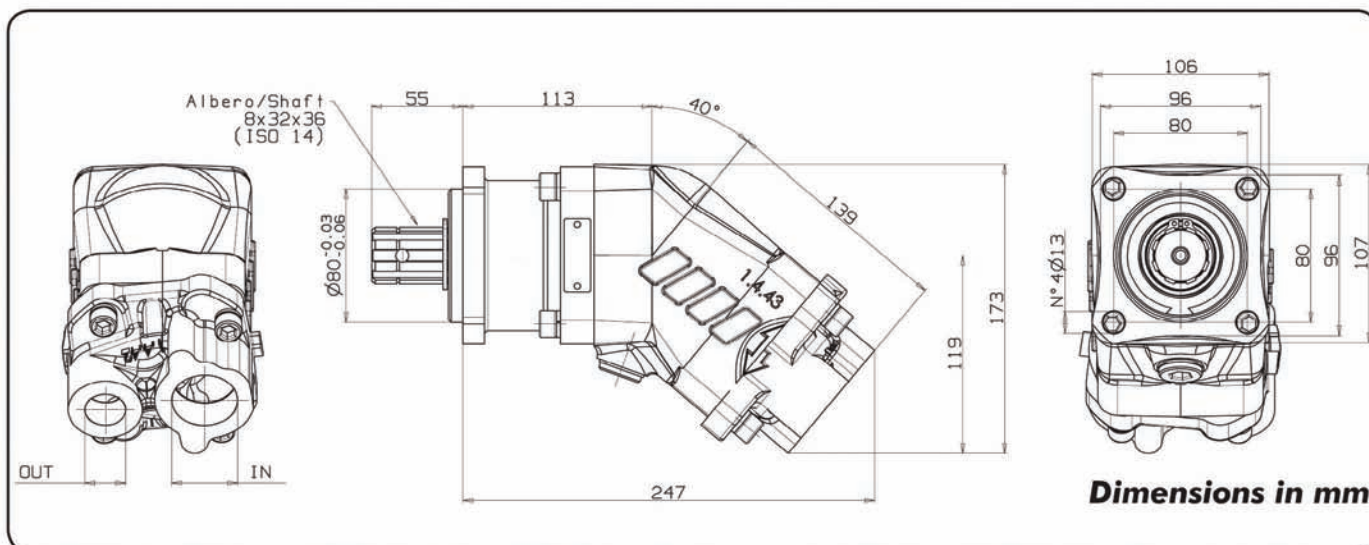






<b>Fluid</b>	Mineral or synthetic compatible with the following seals: HNBR				
<b>Allowed temperature</b>	-40 +140 °C				
<b>Kinematic viscosity suggested</b>	Average ambient temp. (°C)	< -40	-40 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	16	22	32	46
<b>Optimale kinematic viscosity</b>	VG= 10 cSt ÷ 100 cSt				
<b>Max kinematic viscosity suggested at the start-up</b>	VG= 750 cSt				
<b>Viscosity index suggested</b>	VI > 100				
<b>Oil filtering</b>	> 200 bar: 10 µm < 200 bar: 25 µm				
<b>Inlet pressure</b>	0,85 ÷ 2 bar assoluti/absolut				
<b>Pump rotation</b>	Unidirectional (Right or Left)				

Verify that pump is, at least, 100 mm under the minimum level of the tank. Before starting the pump bleed the air.



Pump type	Rotation		IN ISO 228	OUT ISO 228
	Right	Left		
<b>HDS-47</b>	<b>108-015-04733</b>	<b>108-015-04742</b>	G 1 1/4	G 3/4
<b>HDS-55</b>	<b>108-015-05536</b>	<b>108-015-05545</b>	G 1 1/4	G 3/4
<b>HDS-64</b>	<b>108-015-06035</b>	<b>108-015-06044</b>	G 1 1/4	G 3/4

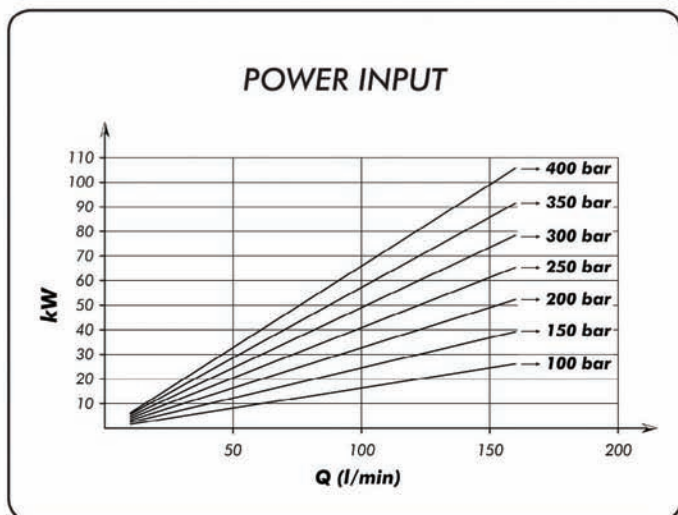
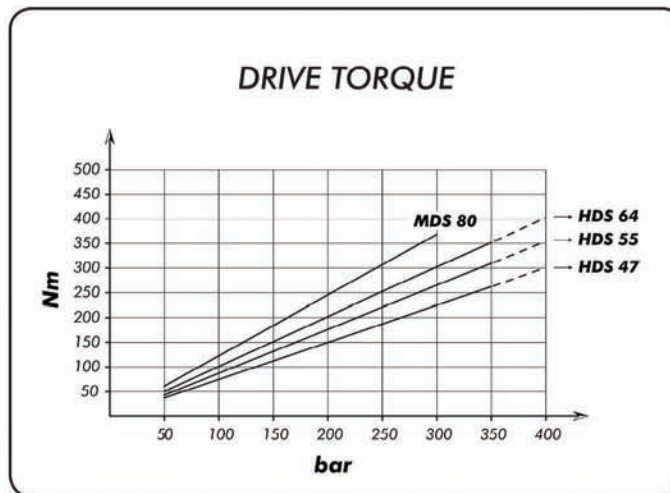
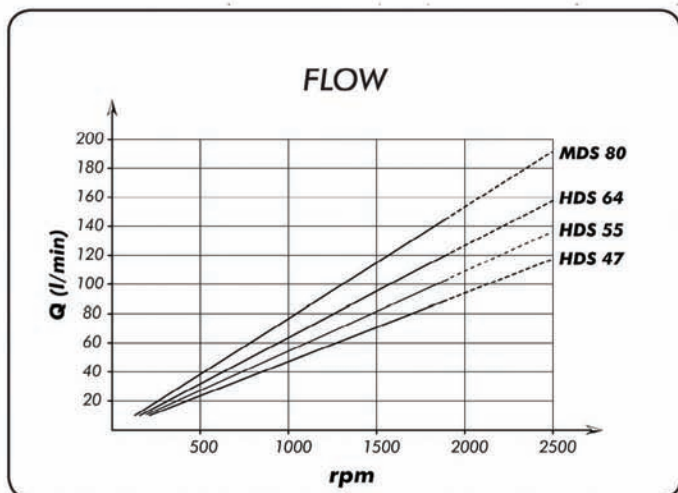


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PUMP TYPE	DISPLACEMENT cm <sup>3</sup> /rev	PRESSURE			Max. continuous speed rpm	Max. intermittent speed rpm	Min. speed rpm	WEIGHT kg
		P1 bar	P2 bar	P3 bar				
<b>HDS-47</b>	47,13	350	370	400	1900	2500	300	12,6
<b>HDS-55</b>	56,7							
<b>HDS-64</b>	63,56							
<b>MDS-80</b>	77,25	300	300	300	1900	2500	300	

Max. continuous pressure (100%)  
 Max. Intermittent pressure (20 sec.max.)  
 Max. peak pressure (6 sec.max)



**SEAL KIT - 108-903-47648**



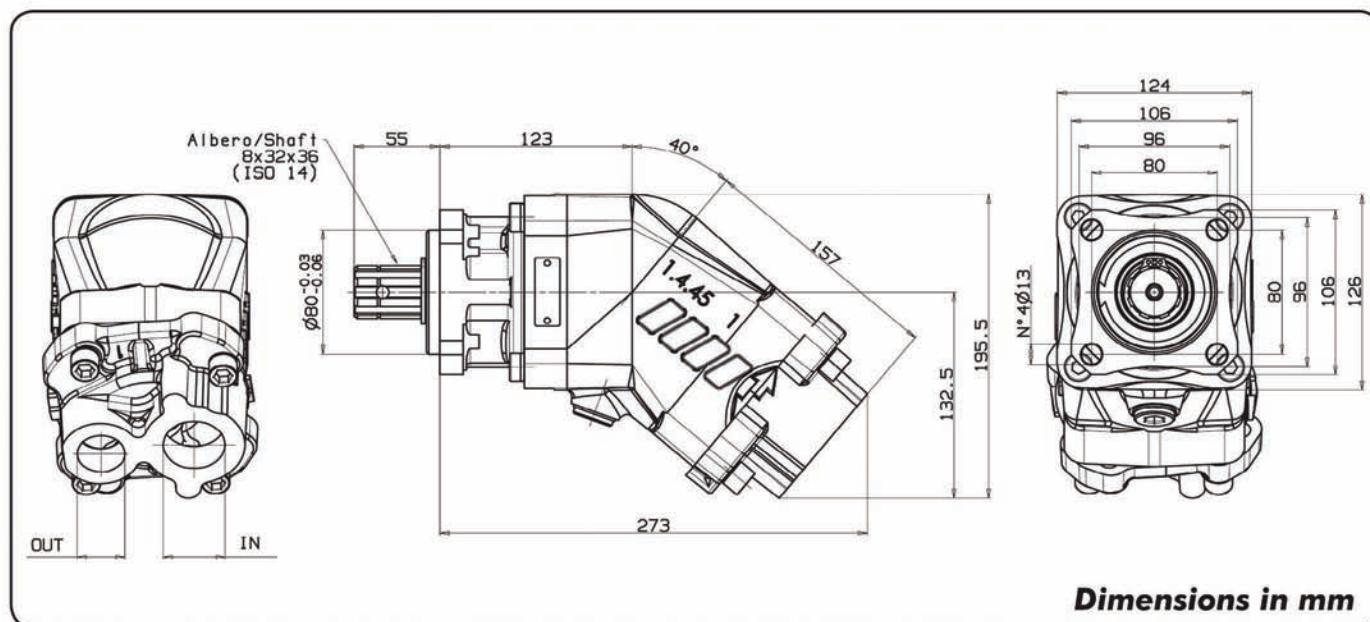
We reserve the right to make changes without notice.





Fluid	Mineral or synthetic compatible with the following seals: HNBR				
Allowed temperature	-40 +140 °C				
Kinematic viscosity suggested	Average ambient temp. (°C)	< -40	-40 ÷ 10	10 ÷ 35	> 35
	VG (cSt = mm <sup>2</sup> /s)	16	22	32	46
Optimale kinematic viscosity	VG= 10 cSt ÷ 100 cSt				
Max kinematic viscosity suggested at the start-up	VG= 750 cSt				
Viscosity index suggested	VI > 100				
Oil filtering	> 200 bar: 10 µm < 200 bar: 25 µm				
Inlet pressure	0,85 ÷ 2 bar assoluti/absolut				
Pump rotation	Unidirectional (Right or Left)				

Verify that pump is, at least, 100 mm under the minimum level of the tank. Before starting the pump bleed the air.



Pump type	Rotation		IN	OUT
	Right	Left		
<b>HDS-84</b>	<b>108-015-08033</b>	<b>108-015-08042</b>	G 1 1/4	G 1
<b>HDS-108</b>	<b>108-015-10833</b>	<b>108-015-10842</b>	G 1 1/2	G 1

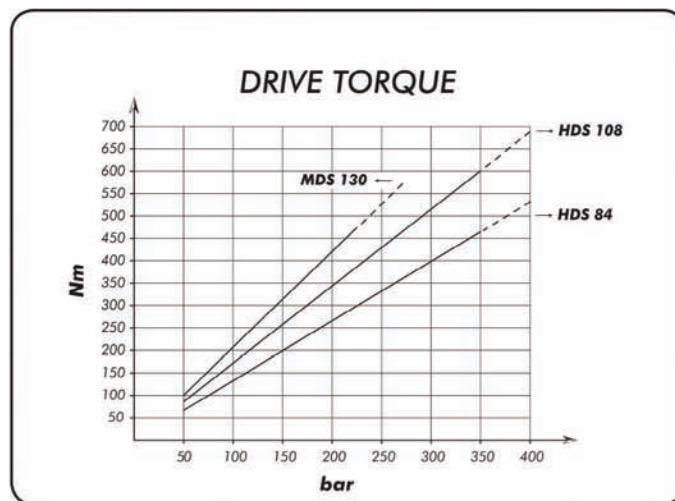
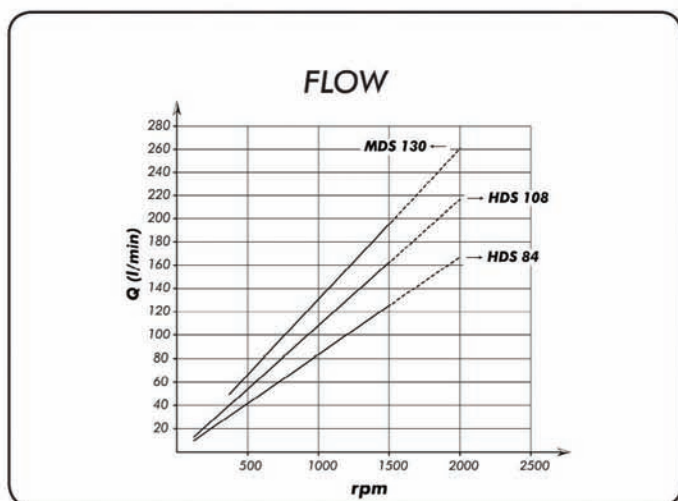


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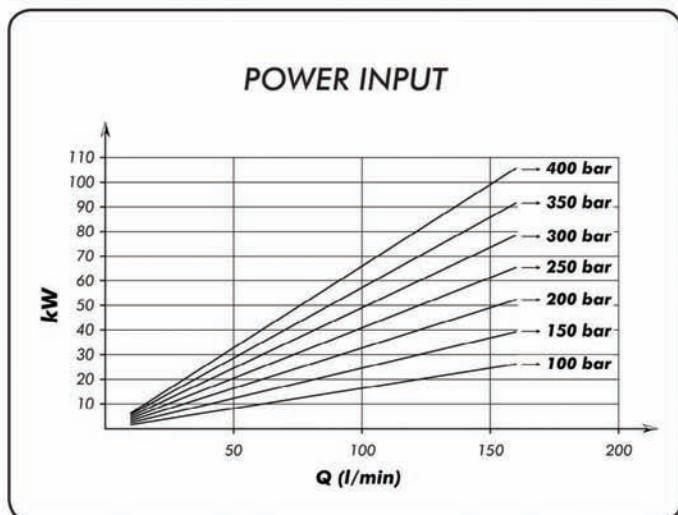


Pump type	Displacement cm <sup>3</sup> /rev	P			Max. continuous speed rpm	Max. intermittent speed rpm	Min. speed rpm	Weight kg
		P1 bar	P2 bar	P3 bar				
<b>HDS-84</b>	<b>84,33</b>	<b>350</b>	<b>370</b>	<b>400</b>	<b>1500</b>	<b>2000</b>	<b>300</b>	<b>17,8</b>
<b>HDS-108</b>	<b>107</b>							

Max. continuous pressure (100%)  
 Max. Intermittent pressure (20 sec.max.)  
 Max. peak pressure (6 sec.max)



**SEAL KIT - 108-903-84009**





<b>Installed position</b>	preferably horizontal (other positions on request!)
<b>Hydraulic fluid</b>	hydraulic oil to DIN 51524 table 2 and 3; ISO VG 10 to 68 acc. to DIN 51519. Viscosity range: min. approx. 10; max. approx. 1000 mm <sup>2</sup> /sec. Optimal operation range: approx. 10...35 mm <sup>2</sup> /sec. Also suitable are biologically degradable pressure fluids type HEES (synth. Ester) at operation temperatures up to approx. +70°C.
<b>Temperature</b>	Ambient: approx. -40...+60°C. Fluid: -25...+80°C, pay attention to the viscosity range! Start temperature down to -40°C is allowable (Pay attention to the viscosity range during start!), as long as the operation temperature during subsequent running is at least 20K (Kelvin) higher.
<b>Filtration</b>	Recommended contamination level ≤ 18/13 conforming DIN ISO 4406.
<b>Initial operation</b>	All pipes should be flushed with the same fluid intended for the later service prior to initial operation. The housing of the pump should be primed via the upper case drain port. The case drain line must be routed in such a way the running empty is prevented. The pressure limiting valve should be set to 50 bar or lower for initial operation and the first few minutes of regular service. <b>Attention:</b> do not screw-out the set screw of the sequence/pressure limiting valve beyond the red index marking!

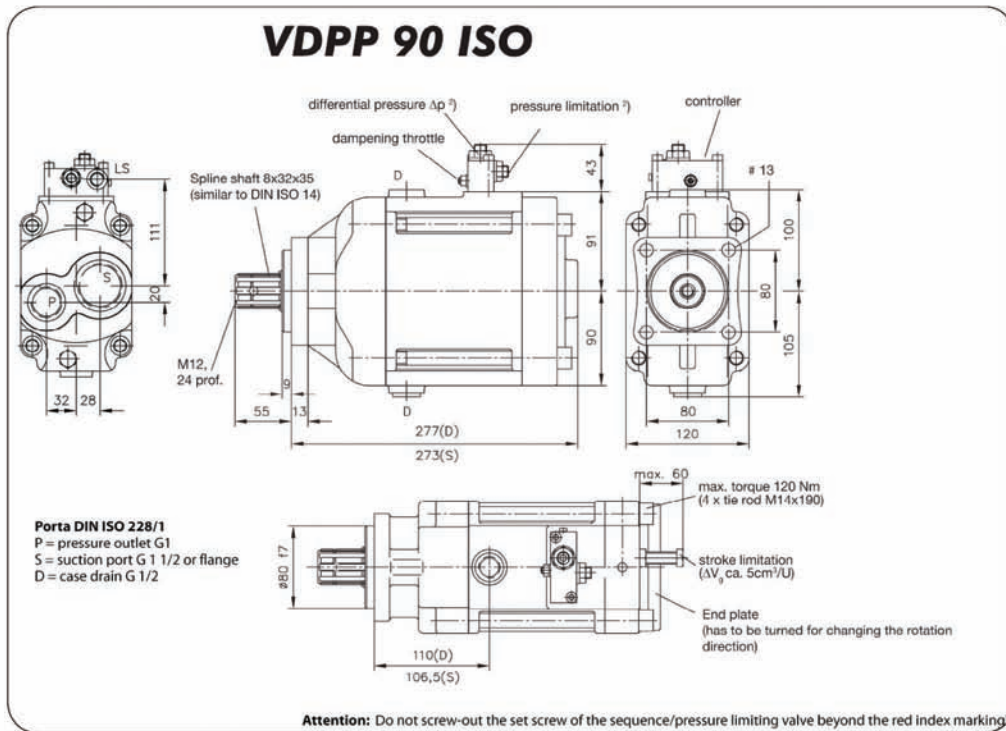
Angle of the swash plate	21,5°
Required inlet pressure abs. for open circuit	0,85 bar
Max. permissible drive torque	600 Nm
Max. rev. rating when self priming and max. angle of the swash plate at 1 bar abs. inlet pressure.	2300 rpm
Min. rev. rating for permanent running	500 rpm
Required torque at 100 bar	151 Nm
Drive power for 250 bar and 2000 rpm	79,5 kW
Weight torque	35,3 Nm
Inertia moment	0,008 kg m <sup>2</sup>
Sound level at 250 bar, 1500 rpm and max. swash plate angle (Measured in a sound measuring room DIN ISO 4412, distance 1m)	75 dB(A)
Pressure range differential pressure	p 15...30bar (setting 25 bar)
Pressure limitation	50 ... 400 bar
Nomenclature axial piston pump according to the swash plate principle	
Direction of rotation clock wise or counter clock wise	
Changing the rotation direction turn the endplate and change the port plate.	

Pump type	Rotation		Nominal pressure bar	Maximum pressure bar	Displacement cm <sup>3</sup> /giro	Weight kg
	Right	Left				
<b>VDPP 90 ISO</b>	108-050-00903	108-050-00912	350	400	90	25,8



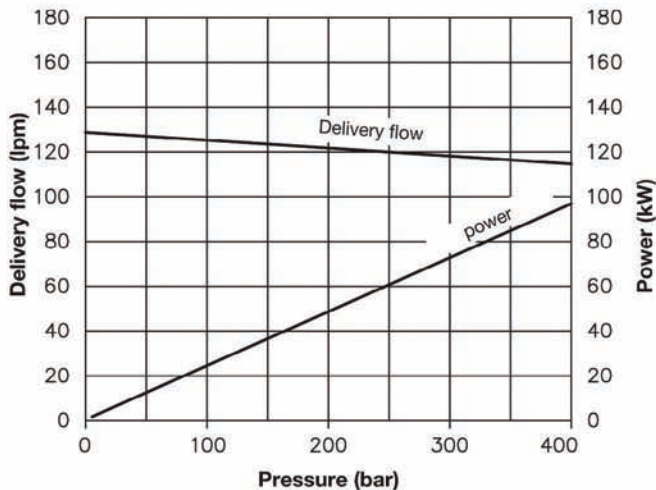
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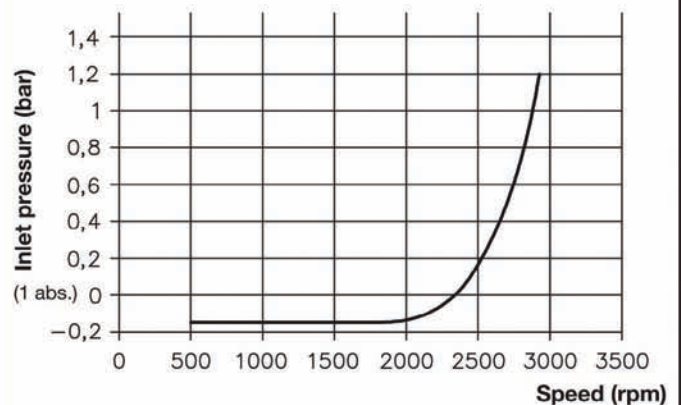
#### DELIVERY FLOW AND PERFORMANCE

The curves illustrate delivery flow/pressure (without) controller. Drive power at max. swash plate angle and drive power at zero stroke at 1500 rpm.



#### INLET PRESSURE

The curve was taken at viscosity 75 mm<sup>2</sup>/sec and max. swash plate angle.



**SEAL KIT - 108-950-50897**

**DISTRIBUTOR PLATE - 108-950-10902 (right) 108-950-20900 (left)**



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