

LIGHTWEIGHT ALLOY HAND PUMPS

700 / 1000 / 1600 / 2800 / 4000 bar

FEATURES

The main quality of **PN** is the lightness (their weight is over 50% less compared to traditional products).

They are made from light alloy metal which is normally used in the aviation field due to its mechanical resistance. Because of this, PN pumps are extremely handy and stand out due to **a very low effort on their handle**.

The practical pedal locking hook allows to use **the lever as a handle during transport** by holding it in the correct position in order to balance the pump correctly even if equipped with ancillaries.

The pumps with 1 and 2 liter oil tank have a brand new design and a bigger internal usable oil volume. This allows both to use the total internal capacity without opening the oil breifer cap or to fill the tank completely in order to use, with the cap in briefing position, a much bigger quantity of oil.

All 700 bar models have:

- Externally adjustable relief valve.
- Side port 1/4" NPT for the direct fitting of the G106L gauge (PN26# range excluded).
- 1/4" NPT hole to insert directly the G106 gauge only on the **PN46#** pump.
- Fixing holes.
- Tank from 1.2 - 2.2 - 4.3 and 7.8 l.

All 1000 / 1600 / 2800 / 4000 bar models have:

- Double stage (except PN13110/16/28 and PN13110 models).
- Externally adjustable low and high pressure relief valves.
- Second port (also usable as gauge port) only on PN13110/16/28, PN16#28 and PN13240 models.
- Fixing holes.
- Tank from 1,2 - 2,2 - 4,3 and 7,8 l.

All PN pumps can work vertically with the pumping head pointing downwards.

The usable oil volume is 100% of the reservoir capacity with 1 and 2 litre tanks, thanks to the filler cap positioned at the end of the tank.

4 and 8 litre models can also work vertically but with a lower oil volume compared to their nominal capacity, it is recommended to use the **ZPN#MOD kit** to fasten correctly the 1 and 2 litre pump vertically.

Double acting pumps:

The PN26# pump Series are equipped with a 4 way manual valve in order to use oil return or double acting cylinders for traction, pushing and lifting operations.



While moving the lever to a different position from the central position the load is not held, the return is controlled by the by-pass valve and in order to have a total return of the cylinder place the valve in return position.

Double acting with piloted check valve:

Differently from **PN26#** pump Series, the **PN46#** Series allow a perfectly controlled lowering under load by acting on the pump with the valve in discharge position thanks to the presence of a piloted check valve which intercepts the port A. The **PN46#** pumps are equipped with a hole for the mounting of 1/4" NPT manometer model **G106**.



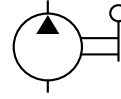
In order to fix the 1 and 2 litre pumps correctly, use the holes at the bottom paying attention not to tight the screws too much to avoid possible deformations or oil losses. **We recommend to use the ZPNB kit.**



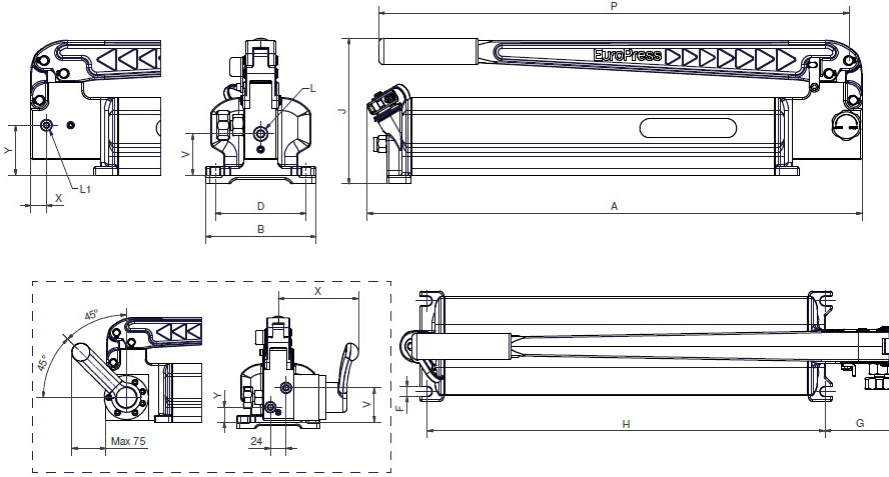
If requested, we are able to supply versions to be used with fluids which are different from mineral oil.

PN

LIGHTWEIGHT ALLOY HAND PUMPS 700 / 1000 / 1600 / 2800 / 4000 bar



• RESERVOIR CAPACITY	0,7 - 8,0 l
• OIL DELIVERY PER STROKE IN HP	0,8 - 2,7 cm ³
• MAX PRESSURE	700 - 1000 - 1600 - 2800 - 4000 bar



SELECTION CHART

PRESSURE 1ST STAGE	PRESSURE 2ND STAGE	OIL DELIVERY PER STROKE 1 ST STAGE	OIL DELIVERY PER STROKE 2ND STAGE	HANDLE EFFORT	FOR USE WITH CYLINDERS	RESERVOIR CAPACITY	USABLE OIL VOLUME	MODEL	DIMENSIONS MM											WEIGHT								
									A	B	D	G	H	F	J	L	L1	P	V		X	Y	kg					
-	-	-	2.7	363	Single acting	1.2	1	PN131	572	115	90	83	460	11	154	3/8" NPT	1/4" NPT	544	32	18	42	4.8						
-	-	-	2.7	363		2.2	2	PN132	572	128	105	83	460	11	169			544	47	18	57	6.2						
30	700	13.7	2.2	380		1.2	1	PN141	572	115	90	83	460	11	154			544	32	18	42	4.8						
30						2.2	2	PN142	572	128	105	83	460	11	169			544	47	18	57	6.2						
70						2.2	2	PN162	572	128	105	83	460	11	173	3/8" NPT	1/4" NPT	544	32	18	55	6.6						
70						4.3	3.8	PN164	572	190	176	90	471	9	173			544	32	18	55	9.8						
70						7.8	7.2	PN168	652	270	256	90	551	9	173			544	32	18	55	14.5						
70						700	28.5	2.7	363	Double Acting	2.2	2	PN262	572	128	105	83	460	11	173	3/8" NPT	-	544	52	124	22	7.4	
70	4.3	3.8	PN264	572							190	176	90	471	9	173	544	52	124	22			10.6					
70	7.8	7.2	PN268	652							270	256	90	551	9	173	544	52	124	22			15.3					
70	700	28.5	2.7	363							With piloted check valve	2.2	2	PN462	572	128	105	83	460	11	173	3/8" NPT	-	544	52	148	22	7.7
70												4.3	3.8	PN464	572	190	176	90	471	9	173			544	52	148	22	10.9
70					7.8							7.2	PN468	652	270	256	90	551	9	173	544			52	148	22	15.6	
-	-	-	-	274	Single acting	1.2	1	PN13110	572	115	90	83	460	11	154	1/4" BSP 120°	-	544	31	*	-	3						
-	-	-	-	385		2.2	2	PN16210	572	128	105	83	460	11	173			544	30	-	-	6.6						
20	1000	28.5	1.4	385		4.3	3.8	PN16410	572	190	176	90	471	9	173			544	30	-	-	9.8						
20						7.8	7.2	PN16810	652	270	256	90	551	9	173			544	30	-	-	14.5						
-						-	-	-	437	1.2	1	PN13116	572	115	90	83	460	11	154	1/2" BSP	-	544	31	*	-	3		
-	-	-	-	522		2.2	2	PN16216	572	128	105	83	460	11	173	544	30	-	-			6.6						
15	1600	28.5	1.4	522		4.3	3.8	PN16416	572	190	176	90	471	9	173	544	30	-	-			9.8						
15						7.8	7.2	PN16816	652	270	256	90	551	9	173	544	30	-	-	14.5								
-						-	-	-	432	1.2	1	PN13128	572	115	90	83	460	11	154	3/8" BSP	-	544	35	*	-	3		
-	-	-	-	515		2.2	2	PN16228	572	128	105	83	460	11	173	544	42	28	42			6.8						
10	2800	28.5	0.8	515		4.3	3.8	PN16428	572	190	176	90	471	9	173	3/4" - 16 UNF	-	544	42			28	42	10				
10						7.8	7.2	PN16828	652	270	256	90	551	9	173			544	42			28	42	14.7				
-					-	-	-	530	2.2	2	PN13240	567	128	105	83			460	11	173	M16 x1.5	544	32	26.5	36	8.3		

* Pressure gauge connection on the front of head of the pump.

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MODEL CODING

PN	13	#			G	
Series	Pump type	Reservoir capacity litres	-	Max pressure 700 bar	10	Max pressure 1000 bar
			16	Max pressure 1600 bar	28	Max pressure 2800 bar
			40	Max pressure 4000 bar		Gauge (only for 700 bar pumps)

OPERATIONAL AREAS

• PN13# Series

Single stage pumps with 1,2 - 2,2 litre reservoirs, for **single acting** cylinders with short strokes and small/medium oil capacities.

• PN14# Series

Double stage pumps with 1,2 - 2,2 litre reservoirs with a pressure relief valve on the first stage, recommended for **single acting** cylinders with medium strokes and medium oil capacities.

• PN16# Series

Double stage pumps with 2,2 - 4,3 - 7,8 litre reservoirs with unloading valve to facilitate the pumping on the second stage; recommended for single acting cylinders with long strokes and large oil capacities.

• PN26# Series

Double stage pumps with 2,2 - 4,3 - 7,8 litre reservoirs with unloading valve to facilitate the pumping on the second stage; with a **4 way** valve, for **double acting** cylinders with long strokes and large oil capacities.

• PN46# Series

Pumps like the PN26# series but equipped with an additional pilot check valve in order to maintain the load while moving the lever and to control the lowering of the cylinder under load.

• PN13110 / PN16#10 Series

Used in extracting operations, in lab tests and to operate hydraulic bolt tensioners models **UTN** and **UTH**.

• PN13116 / PN16#16 Series

Used in all bearings extractions and to operate hydraulic bolt **UTV** tensioners.

• PN13128 / PN16#28 / PN13240 Series

They are most useful and effective in cases of laddering of bearings, in tightenings, in pretensioning of studs, in burst tests and in calibrations.

ACCESSORIES 700 bar:

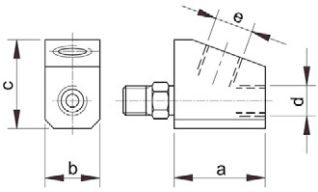
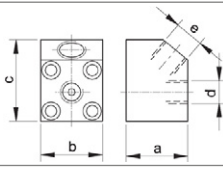
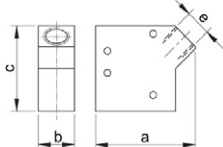
- **ZPS12** Adapter for **G10** gauge with screw connection.
- **ZPF12** Adapter for **G10** gauge with flange connection.
- **ZPF121** Adapter for **G10** with plate connection.

ACCESSORIES 1000 / 1600 / 2800 bar:

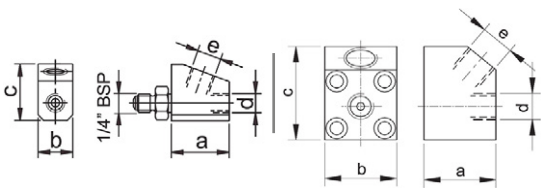
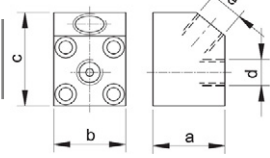
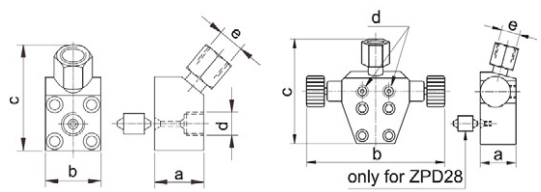
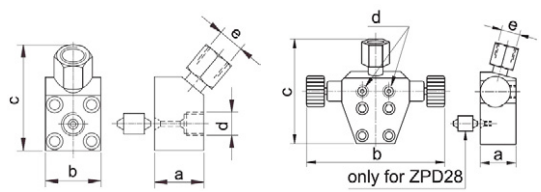
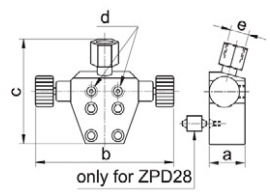
- **ZPS53** Gauge adapter with screw connection.
- **ZPF14** Gauge adapter with flange connection.
- **ZPF73** Gauge adapter with flange connection.
- **ZPD16** Flanges double needle valve to split the flow in two ways.
- **ZPD28** Flanges double needle valve to split the flow in two ways.



ACCESSORIES ZPS / ZPF GAUGE ADAPTORS / 700 bar

	MODEL	For pumps	a	b	c	d	e	kg
	ZPS12 (screw connection)	SERIES PN13# PN14# PN16#	50	30	48	3/8" NPT	1/2" BSP	0.5
	ZPF12 (flange connection)	SERIES PN16#	45	45	60	3/8" NPT	1/2" BSP	0.9
	ZPF121 (plate connection)	SERIES PN26#	83	30	70	-	1/2" BSP	0.37

ACCESSORIES ZPS / ZPF GAUGE ADAPTORS / ZPD VALVES / 1000 / 1600 / 2800 bar

	MODEL	For pumps	Fot gauge	Max press. bar	a	b	c	d	e	kg
	ZPS53 (screw connection gauge adapter)	SERIES PN16#10 PN16#16	G10 G16	1000	50	30	48	3/8" NPT	1/2" BSP	0.9
	ZPF14 (flanged gauge adapter)	SERIES PN16#10 PN16#16	G10 G16	1600	45	45	60	1/4" BSP 120°	1/2" BSP	0.9
	ZPF73 (flanged gauge adapter)	SERIES PN16#28	G30 / G40 + RN28	2800	40	45	85	3/4" - 16UNF	1/2" BSP swivelling	1
	ZPD16 (double needle flanged valve)	SERIES PN16#10 PN16#16	G10 G16	1600	40	155	112	1/4" BSP 120°	1/2" BSP swivelling	1
	ZPD28 (double needle flanged valve)	SERIES PN16#28	G30 / G40 + RN28	2800						

USEFULL ACCESSORIES

- **ZPC**
Support and protection framework for 1 a 2 litres PN pump series with lateral gauge.
- **ZPC1**
Support and protection framework for 1 a 2 litres PN pump series with front gauge.
- **ZPNB**
Mounting kit for the 1 and 2 litres PN pumps series on boards and bases.

- **ZPN1MV**
Kit for the vertical mounting of the PN131 and PN141 pumps.
- **ZPN2MV**
Kit for the vertical mounting of the 2 litre tank PN series.
- **ZPN21MV** Kit for the vertical mounting of PN131 and PN142 pumps.