

▼ Shown: **XA11G**



- Ergonomic design for less operator fatigue
- Variable oil flow & fine metering for precise control
- Higher oil flow for increased productivity
- Closed hydraulic system prevents contamination and allows pump usage in any position
- Pedal lock function for retract position
- Ground screw for improved ATEX explosion safety
- External adjustable pressure setting valve.

▼ Easy operated by foot. No need to fully lift up foot – rest bodyweight on heel, resulting in a handsfree and stable working position.



## XVARI<sup>®</sup> TECHNOLOGY

### Productivity & Ergonomics



#### Optional Pressure Gauge

Integrated gauge with calibrated scale reading in bar, psi and MPa for actual pressure reading.



#### 4/3 Control Valve

For powering double-acting hydraulic cylinders and tools.



#### 2 Litres Reservoir

Double oil capacity for powering larger hydraulic cylinders and tools.



#### Pedal Safety Guard

Customer installed frame protects both pedals against accidental activation.

Model Number <sup>1)</sup>

**XPG1**



#### "Joy-stick" Lever Kit

Customer installed set of handles for manual operation of both pedals.

Model Number <sup>1)</sup>

**XLK1**



#### Swivel Connector

Customer installed swivel connector for optimal orientation of the hydraulic hose.

Model Number <sup>1)</sup>

**XSC1**

<sup>1)</sup> Accessories must be ordered separately.

# XVARI® Technology, Air Driven Hydraulic Foot Pumps



## XVARI® Technology Production Application

XA11 pump is used with a 13 tons hollow cylinder to compress and position diesel engine valve springs. The operator benefits from the fine metering capacities of the XVARI® Technology to apply the mandatory precise stroke and force.

[www.xvari.com](http://www.xvari.com)

## XA Series



Reservoir Capacity:  
**1,0 - 2,0 litres**

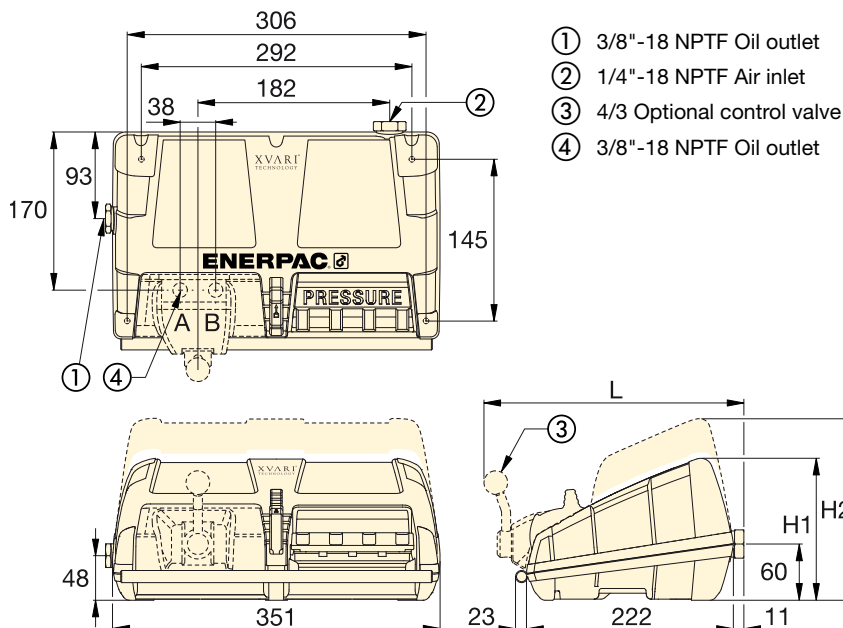
Flow at Rated Pressure:  
**0,25 l/min**

Air Consumption:  
**283 - 991 l/min**

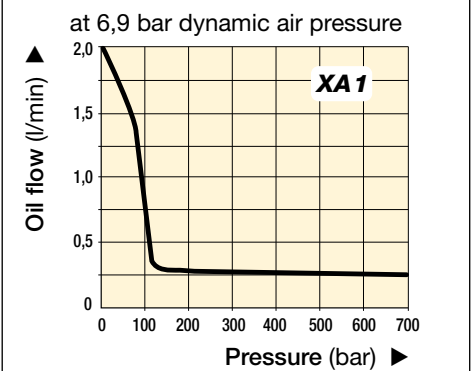
Maximum Operating Pressure:  
**700 bar**

### ▼ XA-SERIES PERFORMANCE CHART

Maximum Pressure (bar)	Output Flow Rate (l/min)		Pump Series	Valve Function	Dynamic Air Pressure (bar)
	No load	Load			
700	2,0	0,25	<b>XA1</b>	Advance/Hold/Retract	2,1 - 8,6



### OIL FLOW VERSUS PRESSURE



### Regulator-Filter-Lubricator

Recommended for use with all XA-Series Air pumps. Provides clean, lubricated air and allows for air pressure adjustment.

Model Number **RFL102**

### ▼ SELECTION CHART

For use with cylinder or tool	Usable Oil Capacity (litres)	Model Number <sup>1)</sup>	Pressure Gauge	3-way 3-pos. Valve	4-way 3-pos. Valve	Dimensions (mm)			Weight (kg)
						H1	H2	L	
Single-acting	1,0	<b>XA 11</b> <sup>2)</sup>	–	•	–	152	–	–	8,6
	2,0	<b>XA 12</b> <sup>2)</sup>	–	•	–	–	170	–	10,2
Single-acting	1,0	<b>XA 11G</b>	•	•	–	152	–	–	8,8
	2,0	<b>XA 12G</b>	•	•	–	–	170	–	10,4
Double-acting	1,0	<b>XA 11V</b>	–	–	•	152	–	279	10,1
	2,0	<b>XA 12V</b>	–	–	•	–	170	279	11,7
Double-acting	1,0	<b>XA 11VG</b>	•	–	•	152	–	279	10,3
	2,0	<b>XA 12VG</b>	•	–	•	–	170	279	11,9

<sup>1)</sup> High-Flow coupler CR-400 and accessories must be ordered separately.

<sup>2)</sup> Available as cylinder-pump set, see page 62.

# PA-Series, Turbo II Air Hydraulic Pumps

▼ Shown from top to bottom: PAMG-1402N, PARG-1102N, PATG-1102N, PATG-1105N



- External adjustable pressure relief valve (behind sight glass)
- Return-to-tank port for use in remote valve applications
- Internal pressure relief valve provides overload protection
- Quieter operation – reduced noise level to 76 dBA
- Operating air pressure: 2,8 - 8,8 bar, enables pump to start at extremely low pressure
- High efficiency cast aluminium air motor
- Reinforced heavy-duty lightweight reservoir for applications in tough environments
- Air pendant for remote control operation .

## Compact Air Over Hydraulic



### Regulator-Filter-Lubricator

Recommended for use with all Turbo air pumps. Provides clean, lubricated air and allows for air pressure

adjustment. Steel bowl guards are standard.

Model Number

**RFL102**



### Large Reservoir Models

The Turbo II Air Pump is also available with an enlarged reservoir: **PATG-1105N**, **PAMG-1405N** and **PARG-1105N**.



### Hoses

Enerpac offers a complete line of high quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac hydraulic hoses.

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▼ Easily operated by hand or by foot.



Used with Cylinder	Usable Oil Capacity (cm <sup>3</sup> )	Model Number
Single-Acting	2081	<b>PATG-1102N</b>
	3770	<b>PATG-1105N</b>
Single-Acting	2081	<b>PARG-1102N</b>
	3770	<b>PARG-1105N</b>
Double-Acting	2081	<b>PAMG-1402N</b>
	3770	<b>PAMG-1405N</b>

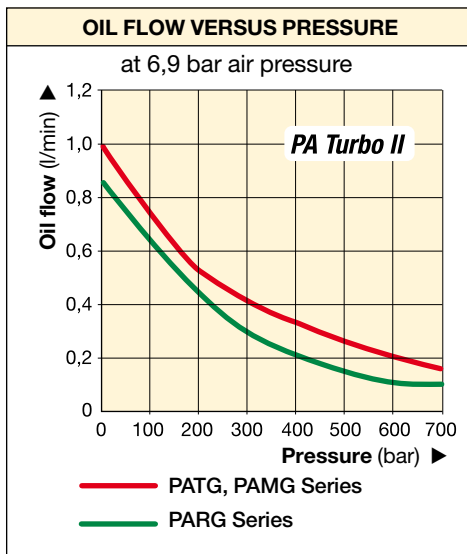
# PA-Series, Turbo II Air Hydraulic Pumps



PATG-models use a foot or hand operated treadle to control air and valve functions.

PAMG-models use a treadle with a locking feature to control air, and a 4-way manual valve to control hydraulics.

PARG-models use air pendant for remote control.



**PATG  
PAMG  
PARG  
Series**



Reservoir Capacity:  
**2,5 - 5,0 litres**

Flow at Rated Pressure:  
**0,08 - 0,16 l/min**

Air Consumption:  
**227 - 340 l/min**

Maximum Operating Pressure:  
**700 bar**

Maximum Pressure (bar)	Output Flow Rate (l/min)		Pump Series	Valve Function	Air Pressure Range (bar)	Air Consumption (l/min) at 5,2 bar air	Sound Level (dBA)
	No Load	No Load					
700	1,00	0,16	PATG	A / H / R *	2,8 - 8,8	340	76
700	0,76	0,08	PARG	A / H / R *	2,8 - 10,3	227	76
700	1,00	0,16	PAMG	A / H / R *	2,8 - 8,8	340	76

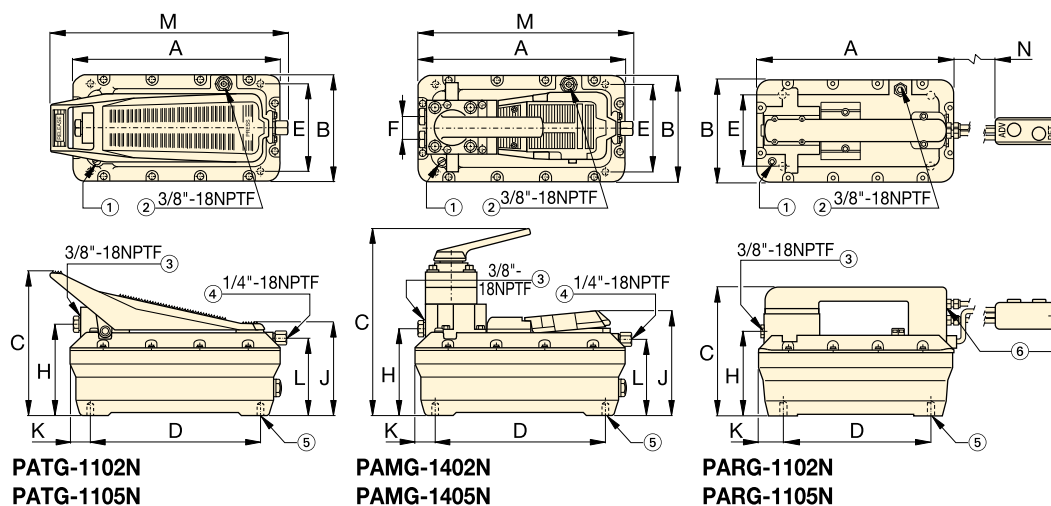
\* Valve function: Advance / Hold / Retract.



### Speed Chart

To determine how a specific pump will operate your cylinder, see the Pump-Cylinder Speed Chart in the 'Yellow Pages'.

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- ① Filtered 'Permanent' Tank Vent
- ② Return-to-Tank/Auxiliary Vent/Fill Tank Port
- ③ Hydraulic Output
- ④ Swivel Air Input with Filter
- ⑤ 4 Mounting Holes for #10 thread forming screw. Maximum depth into reservoir = 19 mm
- ⑥ Air Input with Filter on PARG models 1/4"-18NPTF

Valve Operation	Turbo II Dimensions (mm)													Model Number
	A	B	C	D	E	F	H	J	K	L	M	N	(kg)	
Treadle 3/3	313	165	211	230	102	-	129	146	42	113	347	-	8,2	PATG-1102N
	396	201	209	230	102	-	131	146	86	112	437	-	9,9	PATG-1105N
Air Pendant 3/3	313	165	200	230	102	-	129	-	42	-	-	4500	10,0	PARG-1102N
	396	201	209	230	102	-	131	-	86	-	-	4500	11,7	PARG-1105N
Manual 4/3	313	165	267	230	102	36	130	152	42	113	315	-	11,0	PAMG-1402N
	396	201	267	230	102	36	132	152	86	112	405	-	12,7	PAMG-1405N

# PA-Series, Air Hydraulic Foot Pumps

▼ Shown from top to bottom: PA-1150, PA-133



## PA Series

Reservoir Capacity:  
**0,6 - 1,3 litres**

Flow at Rated Pressure:  
**0,13 l/min**

Air Consumption:  
**255 l/min**

Maximum Operating Pressure:  
**700 bar**



### Reservoir Conversion Kit

Double the reservoir capacity of your existing PA-133 with this easy to install conversion kit.

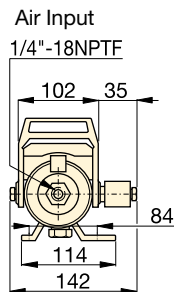
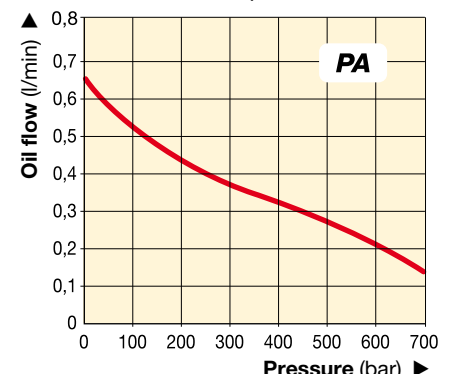
Model Number

**PC-66**

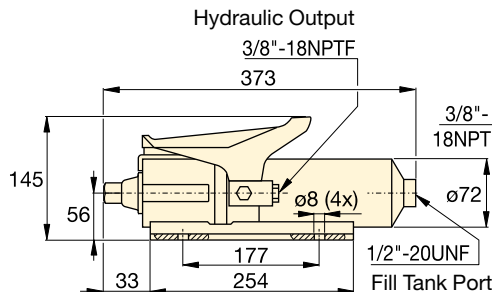
- Rugged construction – built for long life and easy service
- Swivel coupling simplifies hydraulic connection and pump operation
- Three-position treadle provides cylinder advance, hold or retract operation
- Operates in all positions for increased versatility in use and mounting (except PA-1150)
- Base mounting slots provided on PA-133.

### OIL FLOW VERSUS PRESSURE

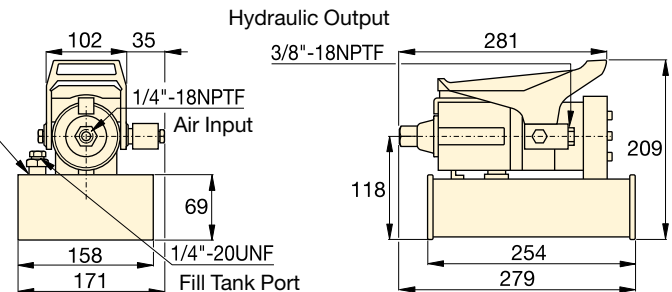
at 6,9 bar air pressure




PA-133



PA-1150



Used with Cylinder	Usable Oil Capacity (cm <sup>3</sup> )	Model Number	Pressure Rating (bar)	Output Flow Rate (l/min)		Valve Function	Air Pressure Range* (bar)	Air Consumption (l/min)	Sound Level (dBA)	 (kg)
				No load	Load					
Single-Acting	589	PA-133	700	0,65	0,13	Advance/Hold/Retract	4,1 - 8,3	255	85	5,4
	1311	PA-1150	700	0,65	0,13	Advance/Hold/Retract	4,1 - 8,3	255	85	8,2

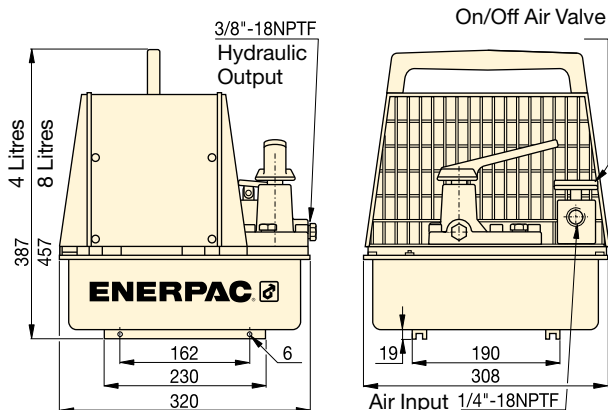
\* Recommended Regulator-Filter-Lubricator: RFL-102.

# PAM-Series, Air Hydraulic Pumps

▼ Shown: PAM-1041



- Twin air motor configuration delivers high-flow performance in first stage, up to 14 bar, for rapid cylinder advance
- 4 and 8 litres reservoirs for use with a wide range of cylinders
- Integral shroud protects air motors and provides easy portability.



PAM-Series

## PAM Series

Reservoir Capacity:  
**4,0 - 8,0 litres**

Flow at Rated Pressure:  
**0,15 l/min**

Air Consumption:  
**510 l/min**

Maximum Operating Pressure:  
**700 bar**



### Locking Valves

Pumps with 4/3 manual valves are available with 4/3 manual locking valves instead. Add suffix "L" to pump model number.

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### Remote Air Valve

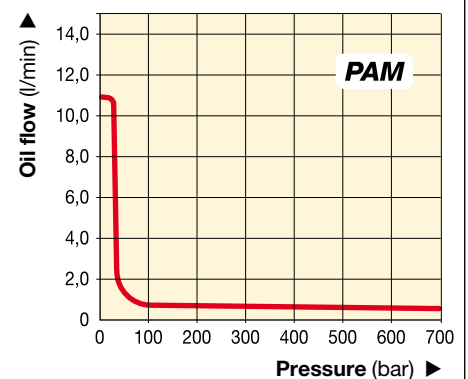
For remote operation of PAM-Series air pumps. Permits either hand or foot operation.

Model Number

VA-2

### OIL FLOW VERSUS PRESSURE

at 6,9 bar air pressure



Used with Cylinder	Usable Oil Cap. (litres)	Model Number with Shroud	Pressure Rating (bar)	Output Flow Rate (l/min)		Valve Function	Valve Type	Air Pressure Range* (bar)	Air Consumption (l/min)	Sound Level (dBA)	Weight (kg)
				1 <sup>st</sup> stage	2 <sup>nd</sup> stage						
Single-Acting	2,6	PAM-1021	700	10,65	0,15	Adv./Hold/Retr.	3/2	4,1 - 8,3	510	87	22,7
	7,6	PAM-1022	700	10,65	0,15	Adv./Hold/Retr.	3/2	4,1 - 8,3	510	87	27,2
Double-Acting	2,6	PAM-1041	700	10,65	0,15	Adv./Hold/Retr.	4/3	4,1 - 8,3	510	87	22,7
	7,6	PAM-1042	700	10,65	0,15	Adv./Hold/Retr.	4/3	4,1 - 8,3	510	87	27,2

\* Recommended Regulator-Filter-Lubricator: RFL-102.

# ZA4-Series, Modular Air Hydraulic Pumps

▼ Shown: ZA4208MX, ZA4420MX



**Z** Tough  
Dependable  
Innovative  
**CLASS**



### ATEX 95 Certified

The Enerpac ZA4-series air pumps are tested and certified according to the **Equipment Directive 94 / 9 / EC "ATEX Directive"** for equipment and protective systems intended for use in potentially explosive atmospheres.



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- ATEX 95 certified for use in potentially explosive atmospheres
- Features Z-Class high efficiency pump design, higher oil flow and bypass pressure
- Two-speed operation reduces cycle time for improved productivity
- User adjustable relief valve built-in on manual valves. Oil ports on valves are 3/8" NPTF
- Optional heat exchanger warms exhaust air to prevent freezing and cools the oil
- Full sight oil level glass on 10, 20 and 40 litres reservoirs, oil level indicators on 4 and 8 litres reservoirs.



### Speed Chart

To determine how a specific pump will operate your cylinder, see the Pump-Cylinder Speed Chart in the 'Yellow Pages'.

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### Hoses

Enerpac offers a complete line of high quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac hydraulic hoses.

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Used with Cylinder	Usable Oil Capacity (litres)	Manual Valve <sup>1)</sup> Model Number	Valve Function	Model Number	Output Flow Rate <sup>3)</sup> (l/min)				Relief Valve Adjustment Range (bar)	Maximum Air Consumption <sup>4)</sup> (l/min)
					at 7 bar	at 50 bar	at 350 bar	at 700 bar		
–	4,0	– <sup>2)</sup>	–	<b>ZA4004NX</b> <sup>2)</sup>	14,0	11,0	1,8	<b>1,3</b>	–	2840
Single-acting	4,0	VM32	Advance/Retract	<b>ZA4204MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	8,0	VM33	Advance/Hold/Retract	<b>ZA4308MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	10,0	VM33L	Advance/Hold/Retract	<b>ZA4610MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
Double-acting	4,0	VM43	Advance/Hold/Retract	<b>ZA4404MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	8,0	VM43	Advance/Hold/Retract	<b>ZA4408MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	10,0	VM43L	Advance/Hold/Retract	<b>ZA4810MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	20,0	VM43	Advance/Hold/Retract	<b>ZA4420MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840
	40,0	VM43	Advance/Hold/Retract	<b>ZA4440MX</b>	14,0	11,0	1,8	<b>1,3</b>	70 - 700	2840

<sup>1)</sup> See pages 114-116 for hydraulic symbols of these valves.

<sup>2)</sup> For remote valve mounting order **BSS1090** high pressure connecting plate.

<sup>3)</sup> Actual oil flow will vary with air supply.

<sup>4)</sup> Dynamic air pressure range: 4 - 7 bar.

# Modulair Air Hydraulic Pumps

▼ This is how a ZA4-Series pump model number is built up:



### 1 Product Type

**Z** = Pump Class

### 2 Prime Mover

**A** = Air motor

### 3 Flow Group

**4** = 1,3 l/min @ 700 bar

### 4 Valve Type

- 0** = No valve, with cover plate
- 2** = 3/2 manual valve VM32
- 3** = 3/3 manual valve VM33
- 4** = 4/3 manual valve VM43
- 6** = 3/3 manual locking valve VM33L with pilot operated check
- 7** = 3/2 manual valve VM22
- 8** = 4/3 manual locking valve VM43L with pilot operated check.

### 5 Reservoir Size, useable oil

- 04** = 4 litres
- 08** = 8 litres
- 10** = 10 litres
- 20** = 20 litres
- 40** = 40 litres

### 6 Valve Operation

- M** = Manual valve
- N** = No valve

### 7 Motor Voltage

- X** = Not applicable

### 8 Options

- F** = Return Line Filter
- G** = 1000 bar gauge
- H** = Heat exchanger\*
- K** = Skid Bar\*
- N** = No reservoir handles (includes lifting eyes on 10, 20 and 40 litres)
- R** = Roll Cage

### Ordering Example

Model Number: **ZA4208MX-FHK**  
 ZA4208MX-FHK is an air operated pump with a 3-way, 2-position manual valve, 8 litres reservoir, filter, heat exchanger and skid bar.

\* On 4 and 8 litres reservoir only.

## ZA4 Series



Reservoir Capacity:

**4 - 40 litres**

Flow at Rated Pressure:

**1,3 l/min**

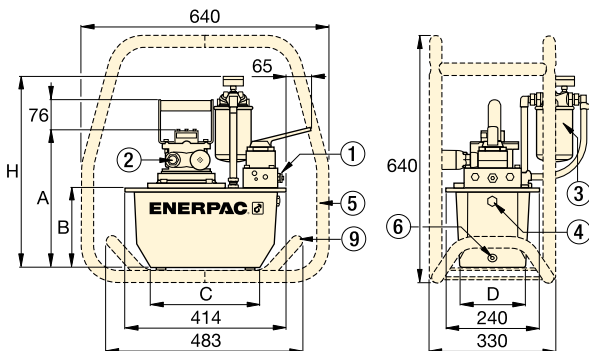
Air Consumption:

**2840 l/min**

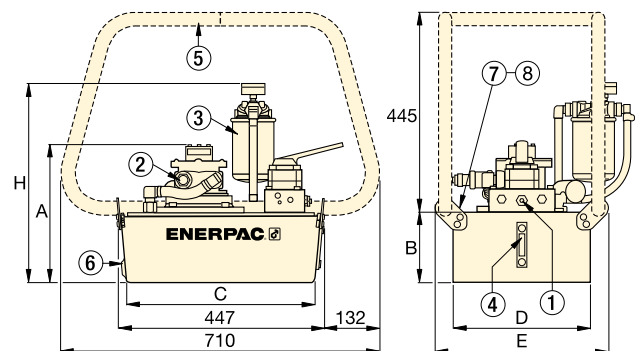
Maximum Operating Pressure:

**700 bar**

- ① User adjustable relief valve on all manual valves. 3/8" NPTF on A and B ports; 1/4" NPTF on auxiliary ports.
- ② Air inlet 1/2" NPTF
- ③ Return Line Filter (optional)
- ④ Oil Sight Gauge
- ⑤ Roll Cage (optional)
- ⑥ Oil Drain
- ⑦ Lifting eyes (optional)
- ⑧ Handles
- ⑨ Skid Bar (Modelnr. SBZ-4) (optional)

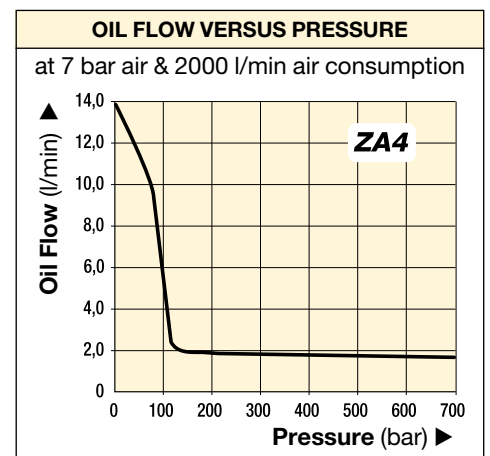


ZA4-Series Pumps with 4 - 8 litres reservoir



ZA4-Series Pumps with 10, 20 and 40 litres reservoir

Sound Level	Motor Size	Dimensions (mm)							Model Number
		A	B	C	D	E	H		
(dBA)	(kW)							(kg)	
80 - 95	3,0	295	142	279	152	-	429	27	ZA4004NX <sup>2)</sup>
80 - 95	3,0	295	142	279	152	-	429	30	ZA4204MX
80 - 95	3,0	356	203	279	205	-	490	34	ZA4308MX
80 - 95	3,0	330	180	414	421	500	467	51	ZA4610MX
80 - 95	3,0	295	142	279	152	-	429	31	ZA4404MX
80 - 95	3,0	356	203	279	205	-	490	35	ZA4408MX
80 - 95	3,0	305	155	419	305	384	442	40	ZA4810MX
80 - 95	3,0	330	180	414	421	500	467	52	ZA4420MX
80 - 95	3,0	419	269	399	505	584	556	75	ZA4440MX



# ATP-Series, Ultra-High Pressure Air Pump

▼ Shown: ATP-1500



## ATP Series

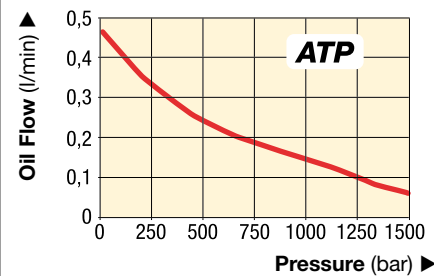
Reservoir Capacity:  
**3,8 litres**

Flow at Rated Pressure:  
**0,07 l/min**

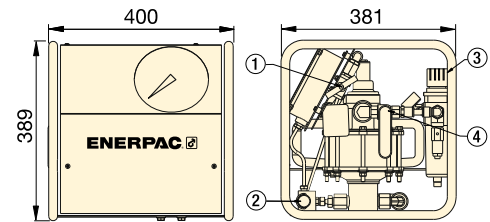
Maximum Operating Pressure:  
**1500 bar**

### OIL FLOW VERSUS PRESSURE

Flow (l/min) at 6,2 bar air input




- General purpose, high pressure air driven two speed pump unit for products requiring up to 1500 bar hydraulic pressure
- Compact, lightweight, rugged steel frame for protection and easy handling
- Prelubricated pump element, does not require an airline lubricator
- Easily adjustable output pressure control
- Integrated and protected easy to read glycerin filled gauge
- Safety relief valve limits output pressure.

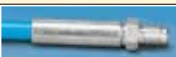





- ① Shut-off Valve
- ② Out Port 1/4" NPTF
- ③ Filter/Regulator
- ④ Air On/Off Valve  
Air Inlet 1/2" NPTF

### 1500 bar HIGH PRESSURE AIR PUMP




Pump Type	Useable Oil Capacity (litres)	Pressure Rating (bar)	Model Number	Output Flow Rate at 0 bar (l/min)	Output Flow Rate at 1500 bar (l/min)	Air Pressure Range (bar)	Air Consumption (l/min)	Sound Level (dBA)	 (kg)
Two speed	3,8	1500	<b>ATP-1500</b>	0,43	0,07	5,5 - 6,2	594	70	32

### 1500 bar HOSES

Model Number		Hose End 1	Hose End 2	Length (m)
HT-1503		1/4" BSPM 120° Cone	1/4" BSPM 120° Cone	1,0
HT-1510		1/4" BSPM 120° Cone	1/4" BSPM 120° Cone	3,0
HT-1503HR*		BH-150	BR-150	1,0
HT-1510HR*		BH-150	BR-150	3,0

\* Includes dust caps.

### 1500 bar COUPLERS

Description		Complete Set	Female Half	Male Half
Quick Disconnect Coupler*		B-150	BR-150	BH-150
Quick Disconnect Coupler and Adaptor Kit*		BW-150AW	-	-
Quick Disconnect Blanking Coupler Set*		B-150B	-	-

\* Includes dust caps.