

PA-Series, Air Hydraulic Foot Pumps

▼ Shown: 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.

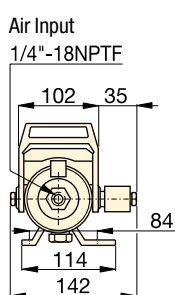
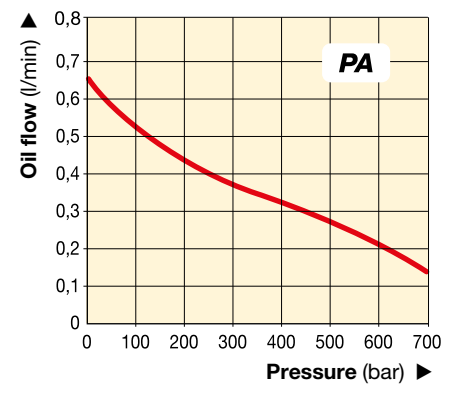
Model Number

PC-66

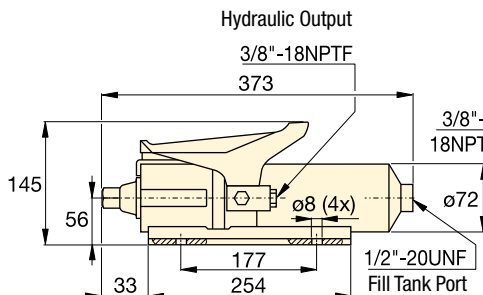
- Rugged construction – built for long life and easy service
- Swivel coupling simplifies hydraulic connection and pump operation
- Three-position treadle provides cylinder advance, hold or retract operation
- Operates in all positions for increased versatility in use and mounting (except PA-1150)
-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

OIL FLOW VERSUS PRESSURE

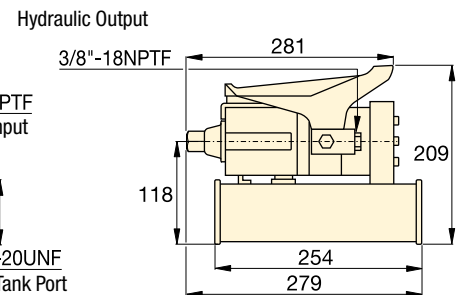
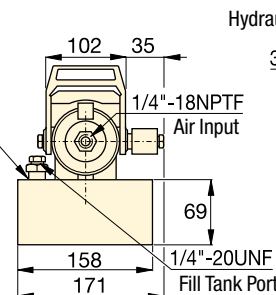
at 6,9 bar air pressure



PA-133



PA-1150



Used with Cylinder	Usable Oil Capacity (cm ³)	Model Number	Pressure Rating (bar)	Output Flow Rate (l/min)		Valve Function	Air Pressure Range * (bar)	Air Consumption (l/min)	Sound Level (dBA)	Weight (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



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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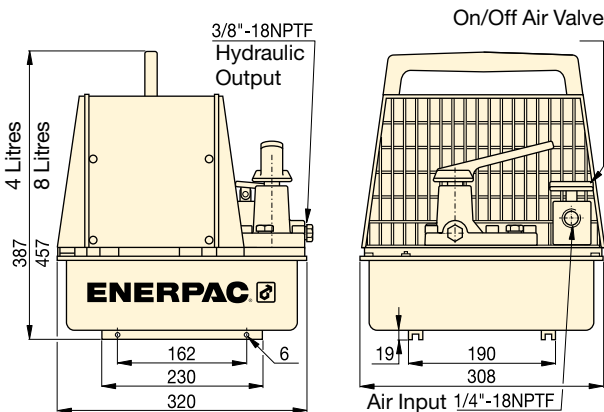
Remote Air Valve

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

Model Number

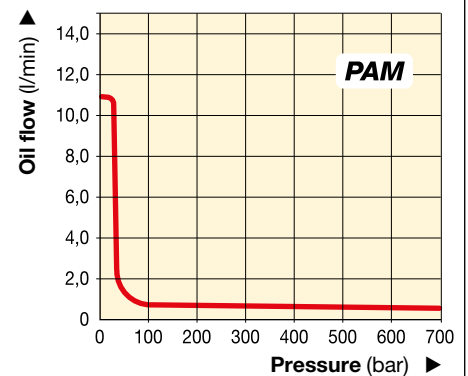
VA-2

- 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.



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 st stage	2 nd stage						
Single-Acting	2,6	PAM-1021	700	10,65	0,15	Advance / Hold / Retract	3/2	4,1 - 8,3	510	87	22,7
	7,6	PAM-1022	700	10,65	0,15	Advance / Hold / Retract	3/2	4,1 - 8,3	510	87	27,2
Double-Acting	2,6	PAM-1041	700	10,65	0,15	Advance / Hold / Retract	4/3	4,1 - 8,3	510	87	22,7
	7,6	PAM-1042	700	10,65	0,15	Advance / Hold / Retract	4/3	4,1 - 8,3	510	87	27,2

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

▼ 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

RFL-102



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 ³)	Model Number
Single-Acting	2081	PATG-1102N
	3770	PATG-1105N
Single-Acting	2081	PARG-1102N
	3770	PARG-1105N
Double-Acting	2081	PAMG-1402N
	3770	PAMG-1405N

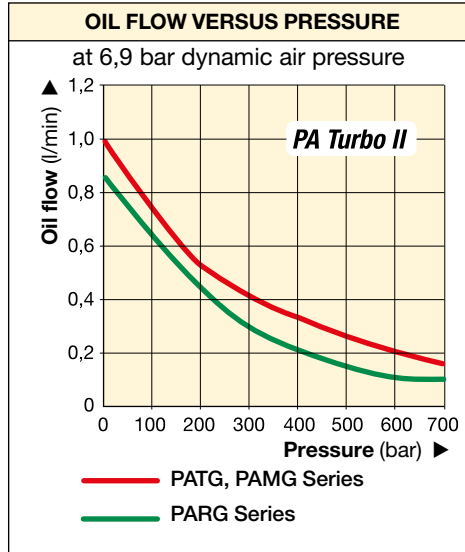
PA-Series, Turbo II Air Hydraulic Pumps



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:
0,10 - 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 at 5,2 bar air (l/min)	Sound Level (dBA)
	No Load	Load					
700	1,00	0,16	PATG	A / H / R *	2,8 - 8,8	340	76
700	0,76	0,10	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

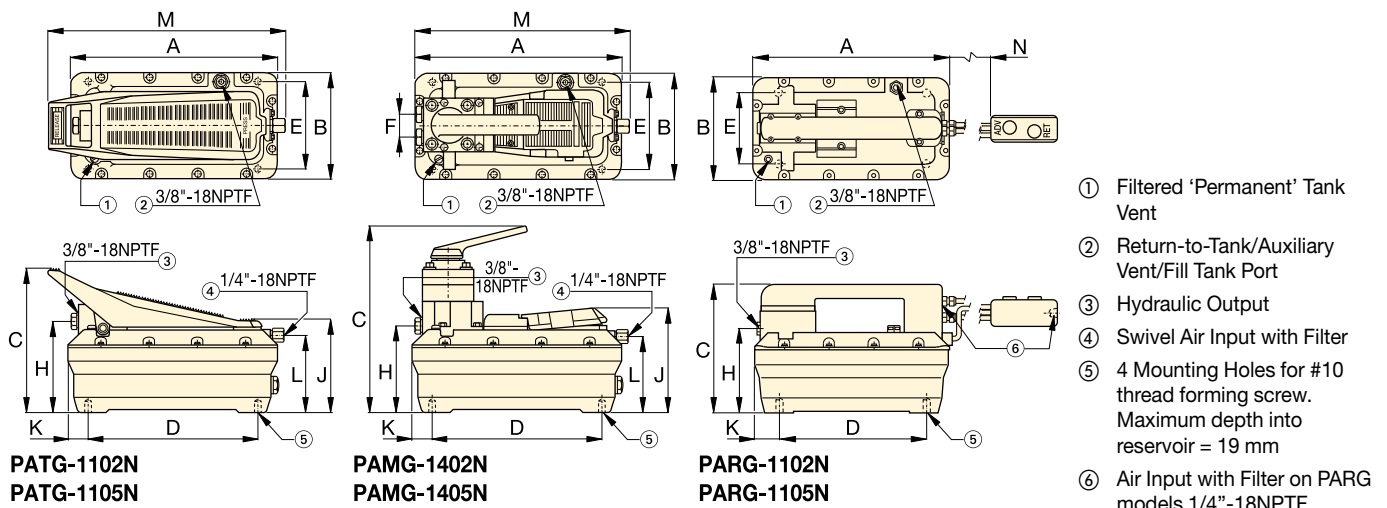
* Valve function: Advance / Hold / Retract.



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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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

▼ 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
- External adjustable pressure setting valve
- Ground screw for improved ATEX explosion safety.

 II 2 GD ck T4

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



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 Number¹⁾

XPG1



“Joy-stick” Lever Kit

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

Model Number¹⁾

XLK1



Swivel Connector

Customer installed swivel connector for optimal orientation of the hydraulic hose. See page 127 for details.

Model Number¹⁾

XSC1

¹⁾ Accessories must be ordered separately.

Air Driven Hydraulic Foot Pumps



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 this pump to apply the mandatory precise stroke and force.

XA Series



Reservoir Capacity:

1,0 - 2,0 litres

Flow at Rated Pressure:

0,25 l/min

Air Consumption:

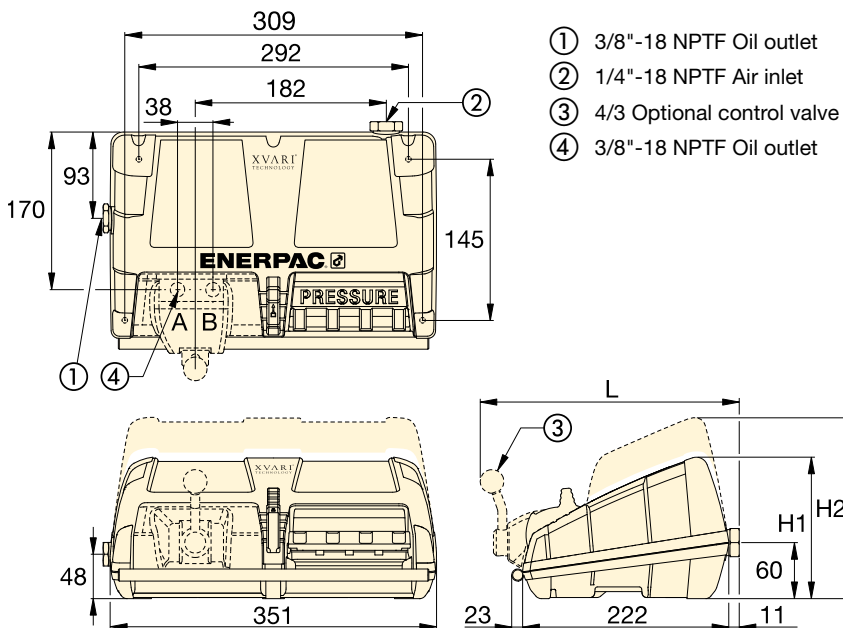
283 - 991 l/min

Maximum Operating Pressure:

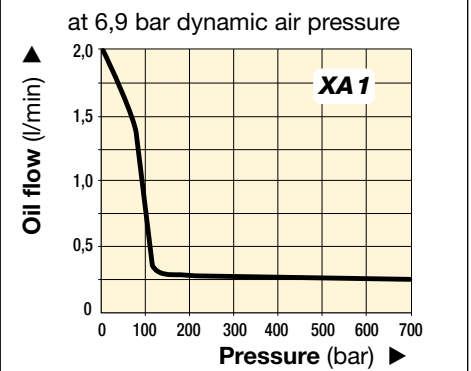
700 bar

▼ 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	XA1	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 ¹⁾

RFL-102

▼ SELECTION CHART

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

¹⁾ High-Flow coupler CR-400 and accessories must be ordered separately. ²⁾ Available as cylinder-pump set, see page 58.

▼ 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 6,6 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 ¹⁾ Model Number	Valve Function	Model Number	Output Flow Rate ²⁾				Relief Valve Adjustment Range (bar)	Maximum Air Consumption ³⁾ (l/min)
					at 7 bar	at 50 bar	at 350 bar	at 700 bar		
–	4,0	–	–	ZA4004NX	14,0	11,0	1,8	1,3	–	2840
Single-acting	4,0	VM32	Advance / Retract	ZA4204MX	14,0	11,0	1,8	1,3	70 - 700	2840
	6,6	VM33	Advance / Hold /Retract	ZA4308MX	14,0	11,0	1,8	1,3	70 - 700	2840
	10,0	VM33L	Advance / Hold /Retract	ZA4610MX	14,0	11,0	1,8	1,3	70 - 700	2840
Double-acting	4,0	VM43	Advance / Hold /Retract	ZA4404MX	14,0	11,0	1,8	1,3	70 - 700	2840
	6,6	VM43	Advance / Hold /Retract	ZA4408MX	14,0	11,0	1,8	1,3	70 - 700	2840
	10,0	VM43L	Advance / Hold /Retract	ZA4810MX	14,0	11,0	1,8	1,3	70 - 700	2840
	20,0	VM43	Advance / Hold /Retract	ZA4420MX	14,0	11,0	1,8	1,3	70 - 700	2840
	40,0	VM43	Advance / Hold /Retract	ZA4440MX	14,0	11,0	1,8	1,3	70 - 700	2840

¹⁾ See pages 116-117 for hydraulic symbols of these valves.

²⁾ Actual oil flow will vary with air supply.

³⁾ 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** = 6,6 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 (on 4 and 6,6 litres reservoir only)
- K** = Skid Bar (on 4 and 6,6 litres reservoir only)
- 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, 6,6 litres reservoir, filter, heat exchanger and skid bar.

ZA4 Series



Reservoir Capacity:

4 - 40 litres

Flow at Rated Pressure:

1,3 l/min

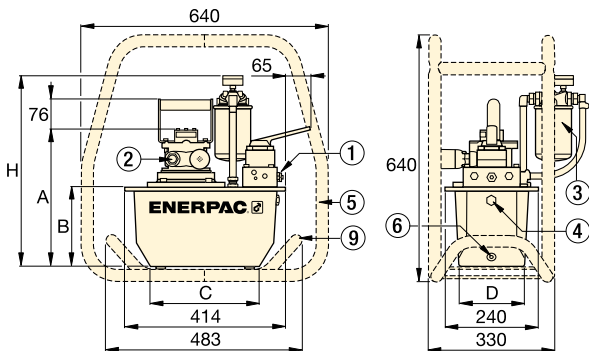
Air Consumption:

2840 l/min

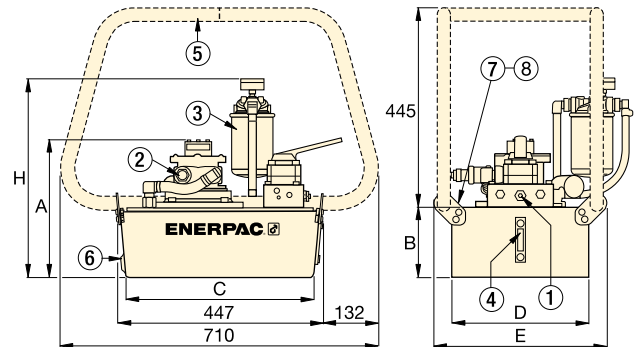
Maximum Operating Pressure:

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 - 6,6 litres reservoir



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

Sound Level (dBA)	Motor Size (kW)	Dimensions (mm)							Weight (kg)	Model Number
		A	B	C	D	E	H			
80 - 95	3,0	295	142	279	152	-	429	27	ZA4004NX	
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	

