AFTERMARKET

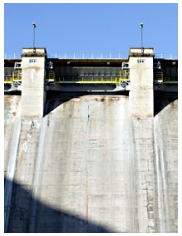
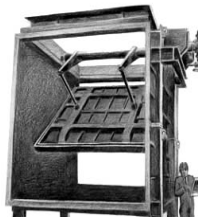
AFTERMARKET

- Glual Energy offers an aftermarket service with an extensive range of spare parts

- With plants in 5 countries, we provide our services in: Spain, China, Brazil, USA and India.

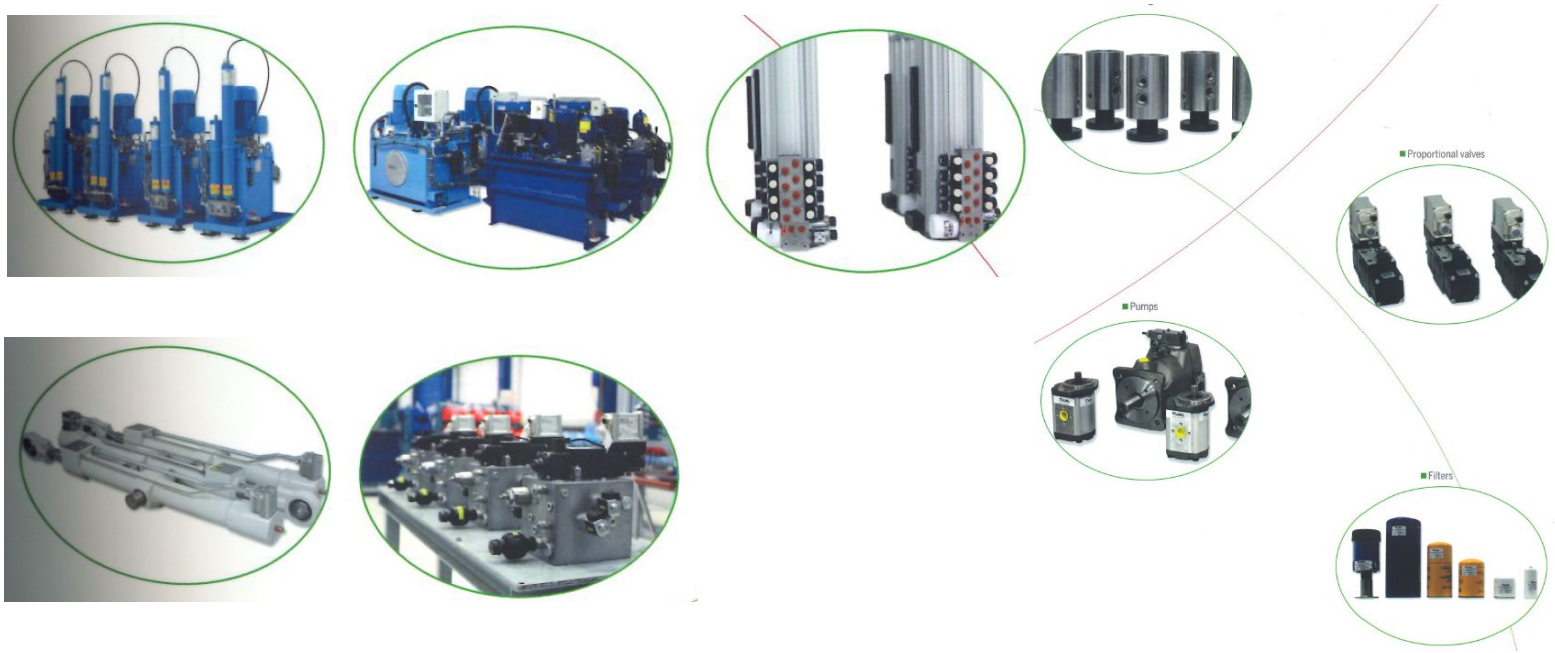
AFTERMARKET

- Find the solution to customer needs
- Large stock of hydraulic parts
- Repairs of components we supply
- Possibility of retrofitting existing hydraulic systems
- Design of new options for obsolete systems


AFTERMARKET

- Manufacture, repair and solutions for hydraulic systems, cylinders, cooling systems, accumulators, filtration and lubrication, hydraulic connectors, proportional valves, etc.



AFTERMARKET

1.- Piston accumulators compared with bladder accumulators
2.- Compact hydraulic units
3.- Tailor-made hydraulic cylinders
4.- Compact hydraulic manifold blocks
5.- Rotary joints
6.- Valves
7.- Pumps
8.- Filters
9.- Filter units

1.- Piston accumulators compared with bladder accumulators

1.- Risk of sudden puncture in the bladder accumulator.

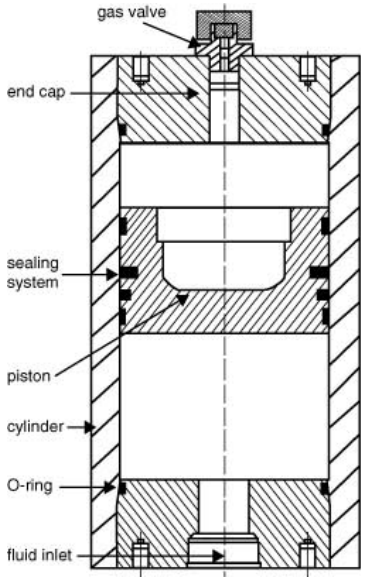
2.- The calculation of the volume requirements of an accumulator are determined by the particular characteristics of the machine and by the calculated requirements for the effect.

3.- One of the most frequent problems is the loss of gas from the accumulators due to the porosity of the bladder. The larger the surface area of the bladder, the greater the possibility of gas loss.

1. There is no sudden puncture risk, wear of the piston seals is gradual.

2.- The calculated volume is taken into consideration in the piston accumulator design, and it has the particular feature of being able to distribute this calculated volume over different lengths and diameters in accordance with the positioning requirements of the accumulator on the machine.

3.- The porosity of the piston accumulator is practically nil; the surface area that the bladder has in contact with the gas is much greater than the surface area of the piston seal of the accumulator. This detail is what differentiates the amount of gas leakage in the accumulator.



1.- Piston accumulators compared with bladder accumulators

4.- Change of entire accumulator

Once a puncture fault occurs, the piston accumulator must be replaced.

5.- A puncture in the bladder means the accumulator must be changed straight away. This element cannot be inspected to know its condition and to carry out preventive maintenance on the machine.

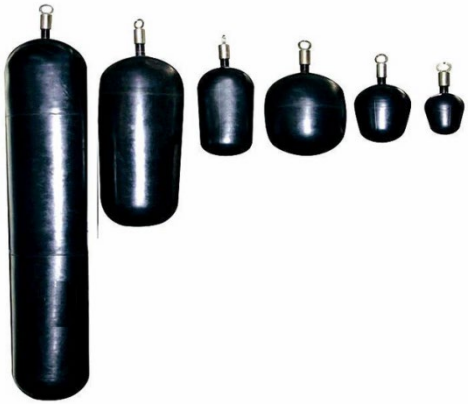
6.- Piston position sensors cannot be fitted.

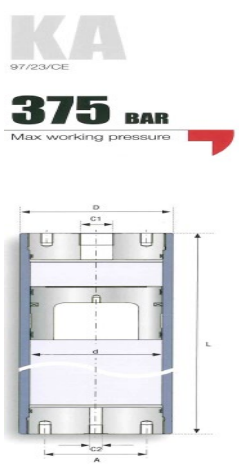
4.- Repair of the piston accumulator

Wear of the accumulator's piston seals requires consequent maintenance of the accumulator. Changing these piston seals is a regular accumulator repair procedure.

5- In piston accumulators, the condition and wear of the sleeve can be studied before taking the decision for a possible replacement or to continue working for a longer period.

6.- In contrast to bladder accumulators, different sensors can be installed on piston accumulators so the position of the piston or the gas pressure inside the accumulator can be known.



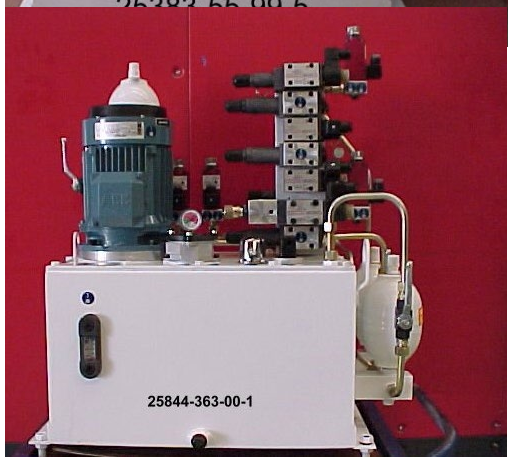


Design GLUAL HYDRAULICS

V Volume (L)	d Piston ø (mm)	D Outside ø (mm)	L Length (mm)	C1 Connection OIL	C2 Connection GAS	A Fastening	Weight (Kg)	V-P-d Type
0,5	60	76	340	1/2"G	1/4"G	M6 Ø45	7	KA-375-0,5-60
	100	120	275	3/4"G	1/4"G	M8 Ø80	18	KA-375-0,5-100
1	60	76	515	1/2"G	1/4"G	M6 Ø45	10	KA-375-1-60
	100	120	340	3/4"G	1/4"G	M8 Ø80	18	KA-375-1-100
1,5	60	76	695	1/2"G	1/4"G	M6 Ø45	12	KA-375-1,5-60
	100	120	405	3/4"G	1/4"G	M8 Ø80	20	KA-375-1,5-100
2	60	76	870	1/2"G	1/4"G	M6 Ø45	14	KA-375-2-60
	100	120	465	3/4"G	1/4"G	M8 Ø80	21	KA-375-2-100
2,5	60	76	1045	1/2"G	1/4"G	M6 Ø45	17	KA-375-2,5-60
	100	120	530	3/4"G	1/4"G	M8 Ø80	23	KA-375-2,5-100
3	60	76	1225	1/2"G	1/4"G	M6 Ø45	19	KA-375-3-60
	100	120	595	3/4"G	1/4"G	M8 Ø80	25	KA-375-3-100
	125	150	465	1/2"G	1/4"G	M12 Ø90	34	KA-375-3-125
4	60	76	1580	3/4"G	1/4"G	M6 Ø45	24	KA-375-4-60
	100	120	720	1/2"G	1/4"G	M8 Ø80	28	KA-375-4-100
	125	150	550	3/4"G	1/4"G	M12 Ø90	37	KA-375-4-125
5	60	76	1930	1/2"G	1/4"G	M6 Ø45	29	KA-375-5-60
	100	120	850	3/4"G	1/4"G	M8 Ø80	32	KA-375-5-100
	125	150	630	1"G	1/4"G	M8 Ø45	41	KA-375-5-125
6	100	120	975	3/4"G	1/4"G	M8 Ø80	35	KA-375-6-100
	125	150	710	1"G	1/4"G	M12 Ø90	44	KA-375-6-125
8	100	120	1230	1"G	1/4"G	M8 Ø80	42	KA-375-8-100
	125	150	875	1"G	1/4"G	M12 Ø90	51	KA-375-8-125
10	100	120	1485	3/4"G	1/4"G	M8 Ø80	49	KA-375-10-100
	125	150	1040	1"G	1/4"G	M12 Ø90	58	KA-375-10-125
	180	222	655	1 1/2"G	3/4"G	M12 Ø140	104	KA-375-10-180
	200	240	630	1 1/2"G	3/4"G	M12 Ø160	116	KA-375-10-200
12	100	120	1740	3/4"G	1/4"G	M8 Ø80	56	KA-375-12-100
	125	150	1205	1"G	1/4"G	M12 Ø90	65	KA-375-12-125
	180	222	735	1 1/2"G	3/4"G	M12 Ø140	112	KA-375-12-180
	200	240	695	1 1/2"G	3/4"G	M12 Ø160	125	KA-375-12-200
15	100	120	2125	3/4"G	1/4"G	M8 Ø80	68	KA-375-15-100
	125	150	1445	1"G	1/4"G	M12 Ø90	75	KA-375-15-125
	180	222	790	1 1/2"G	3/4"G	M12 Ø140	118	KA-375-15-180
	200	240	655	1 1/2"G	3/4"G	M12 Ø160	121	KA-375-15-200
20	125	150	1855	1"G	1/4"G	M12 Ø90	92	KA-375-20-125
	180	222	968	1 1/2"G	3/4"G	M12 Ø140	134	KA-375-20-180
	200	240	750	1 1/2"G	3/4"G	M12 Ø160	131	KA-375-20-200
25	125	150	2260	1"G	1/4"G	M12 Ø90	110	KA-375-25-125
	180	222	1110	1 1/2"G	3/4"G	M12 Ø140	151	KA-375-25-180
	200	240	910	1 1/2"G	3/4"G	M12 Ø160	149	KA-375-25-200
30	125	150	2670	1"G	1/4"G	M12 Ø90	127	KA-375-30-125
	180	222	1440	1 1/2"G	3/4"G	M12 Ø140	185	KA-375-30-180
	200	240	1270	1 1/2"G	3/4"G	M12 Ø140	188	KA-375-30-200
	250	300	985	1 1/2"G	3/4"G	M12 Ø210	264	KA-375-30-250
35	125	150	3075	1"G	1/4"G	M12 Ø90	144	KA-375-35-125
	180	222	1640	1 1/2"G	3/4"G	M12 Ø140	206	KA-375-35-180
	200	240	1425	1 1/2"G	3/4"G	M12 Ø140	204	KA-375-35-200
	250	300	1085	1 1/2"G	3/4"G	M12 Ø210	281	KA-375-35-250
40	125	150	3485	1"G	1/4"G	M12 Ø90	161	KA-375-40-125
	180	222	1835	1 1/2"G	3/4"G	M12 Ø140	226	KA-375-40-180
	200	240	1585	1 1/2"G	3/4"G	M12 Ø140	222	KA-375-40-200
	250	300	1190	1 1/2"G	3/4"G	M12 Ø210	299	KA-375-40-250
45	180	222	2030	1 1/2"G	3/4"G	M12 Ø140	247	KA-375-45-180
	200	240	1745	1 1/2"G	3/4"G	M12 Ø140	239	KA-375-45-200
	250	300	1295	1 1/2"G	3/4"G	M12 Ø210	316	KA-375-45-250
50	180	222	2230	1 1/2"G	3/4"G	M12 Ø140	267	KA-375-50-210
	200	240	1905	1 1/2"G	3/4"G	M12 Ø140	256	KA-375-50-200

2.- Compact hydraulic units

- We retrofit hydraulic units
- Current hydraulic units are much more compact, which means that the amount of valves and manifold blocks in the hydraulic units can be reduced, in order to facilitate maintenance and reduce possible incidents in the future.



3.- Tailor-made hydraulic cylinders

- **Manufacture of a wide range of cylinders:**

Características técnicas			
Velocidad	Presión	Temperaturas	Fluidos
Desde 0,0005 hasta 4 m/s	Desde 0 a 500 Bar	- 40C a + 200C	Aceites minerales, basados en agua, éster fosfórico
Bloqueos mecánicos o hidráulicos			
Transductores de posición externos e internos			
Capacidades de producción			
Peso	Dimensiones		
Hasta 60 Tn	Hasta Ø pistón 1600 mm y largo 16000 mm		

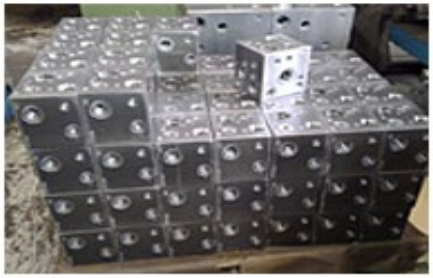
- **Cylinders can be manufactured in accordance with an existing cylinder drawing or new designs of already existing cylinders can be produced.**





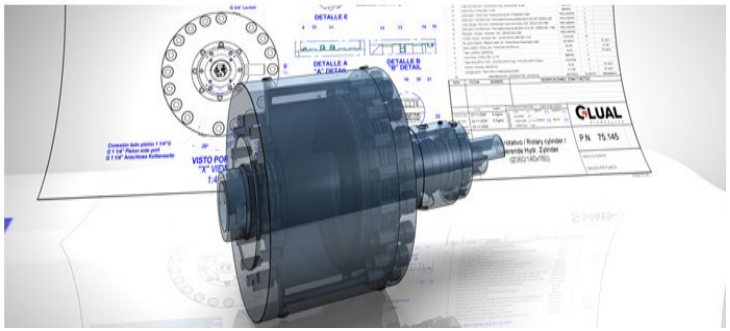

4.- Compact hydraulic manifold blocks

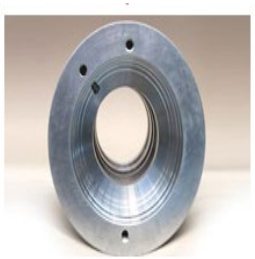
- Design, manufacture and repair of hydraulic manifold blocks
- More compact manifold blocks can be retrofitted



- **Design, manufacture and repair of hydraulic rotary joints**

Rotary joints interchangeable with GAT joints





- **Design, manufacture and repair of valves**

- Conventional valves
- Modular valves
- Solenoid valves
- Proportional valves
- Servo-valves

- **Wide selection of pumps**

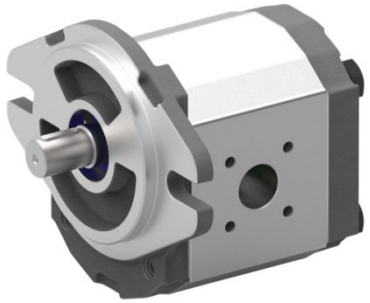
➢ Fixed flow pumps

➢ Variable flow pumps

➢ Vane pumps

➢ Piston pumps

➢ Gear pumps



- Wide selection of filters:

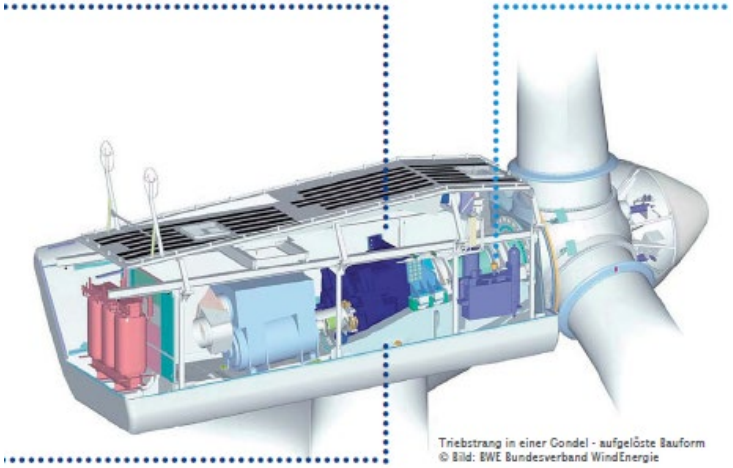
➢ Suction filters

➢ Pressure filters

➢ Return filters

➢ Air filters

Filters for gearbox and bearing lubrication systems



Filtration in the hydraulic control syste

Supply of filters from MP filtri, Mahle, Argo Hytos, Parker, Hydac, Pall, Bosch Rexroth.

9- Particle counters and filter units

- To prevent oil contamination on wind mills, which is the main reason for their malfunctioning, we supply particle counters and filter units.

Particle counters

- **Filter units**
- Monitoring and maintenance of the oil is the most important factor to prevent breakdowns.

  – Stationary off-line filter units:

  – Mobile off-line filter units:

Machines manufactured by GLUAL

- **Gamesa: G47, G52, G58, G80, G87, G97, G114, G126, G132, G145**
- **Vestas:V80, V82, V90, V100, V110, V112, V114, V136; V164**
- **Acciona: AW-3000 (all versions)**
- **Made: AE30, AE32, AE46, AE61, AE52, AE-90, S800**
- **Ecotecnia: ECO-28, ECO-44, ECO-48, ECO-74**
- **Siemens: D3MK2, D3-133, G2-120**