



Products

Hydraulic gear pumps and motors

[General description](#)
[Group 00](#)
[Group 10](#)
[Group 20](#)
[Group 30](#)
[Pumps with Valves](#)
[Special pumps](#)
[Tandem Pumps](#)
[Gear motors + reversible pumps](#)
[Hand Pumps](#)

Hydraulic valves

Hydraulic orbital motors

Hydraulic aggregates

Hydraulic cylinders

Automotive products

Electrical drives


Contacts

Fax +359 431 62 230 ; +359 431 63 134
 e-mail: caproni@caproni.bg
 web : www.caproni.bg

Use our Feedback Form

Tweet Like 108

Hydraulic gear pumps and motors / General description /



www.caproni.bg
caproni@caproni.bg

General description

The gear pumps are designed for transforming the mechanical energy as energy of the working liquid (pressure and flow rate). They are simplified in construction and they have a relatively low cost. All these benefits ensure their wide application in the hydraulic systems.

Drive arrangements

The pump drive may be direct or indirect (by gear, chains, or belt transmissions). Both drives should not impose axial or radial forces on the pump shaft. Oldham coupling serrated drive adapters are used with direct drive. For indirect drive refer to the manufacturer.

The gear pumps are designed to work at the conditions mentioned below:

- Working liquid:	hydraulic oils with viscosity 16 ... 200 mm ² /s;
- Degree of filtration:	15 ... 25 i m;
- Ambient temperature range:	- 22 ... 55 °C;
- Fluid temperature range:	- 25 ... 80 °C;
- Inlet pressure, absolute:	0.8 ... 2.2 bar;
- Fluid velocity (suction line)	0.5 ... 1 m/s
- Outlet pressure	up to 250 bar.

The gear pumps made by "Caproni" are produced in 5 different groups: 00, 10, 20 and 20H, 30 and 40. The displacements of the pumps are in the range from 0.25 to 60 cm³.

Group 00	q = 0.25 ... 2 cm ³ ;
Group 10	q = 1 ... 9.8 cm ³ ;
Group 20	q = 4.5 ... 25 cm ³ ;
Group 20H	q = 15 ... 36 cm ³ ;
Group 30	q = 20 ... 60 cm ³ ;
Group 40	q = 46 ... 60 cm ³ .


There are different variants of flanges, shafts and ports for each pump group (standard; Germany; USA ...).

We offer the next variants too:

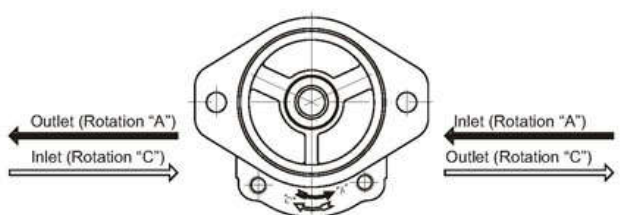
- tandem pumps;
- pumps with build-in valves;
- reversible pumps;
- reversible gear motors.

<p>Used symbols:</p> <p>n - speed of rotation [min⁻¹]; p - pressure [bar]; q - displacement [cm³]; η - total efficiency $\eta = \eta_s \cdot \eta_{hm}$ [-]; η_{hm} - hydromechanical efficiency [-]; η_s - volumetric efficiency [-].</p>	<p>Commonly used formulas:</p> <p>Flow: $Q = \frac{q \cdot n \cdot \eta}{1000}$ [l/min] Torque: $M \cong \frac{q \cdot p}{20 \cdot \pi}$ [N.m] Drive power: $P = \frac{Q \cdot p}{600}$ [kW]</p>
---	--

www.caproni.bg
caproni@caproni.bg



A relationship between the direction of rotation and the place of the inlet and outlet ports of the pumps



How to order:

Group	Rotation	Displacement code	Drive shaft	Pump code	Ports
00 10 20 30 40	A ↻ C ↻ R ↻		X - Through the front cover Y - Through the both covers	***(*)	- A flange with metric threads P4- A flange with UNC threads M - Metric G - GAS U - SAE J475

Group 00	Group 10	Group 20	Group 20H	Group 30	Group 40
Code cm ³	Code cm ³	Code cm ³	Code cm ³	Code cm ³	Code cm ³
0,25 0,25	1 1	4,5 4,5	15 15	20 20	36 36
0,3 0,3	1,25 1,25	6,3 6,3	16 16	22,5 22,5	42 42
0,5 0,5	1,6 1,6	7* 7	19 19	25 25	46 46
0,75 0,75	2 2	8,2 8,2	22 22	28 28	50 50
1 1	2,5 2,5	10 10	25 25	32 32	55 55
1,25 1,25	2,65* 2,65	11 11,3	28 28	36 36	60 60
1,5 1,5	3,15 3,15	12 12	32 32	42 42	
1,75 1,75	3,65 3,65	14 14	36 36	46 46	
2 2	4,2 4,2	15 15		50 50	
	4,7* 4,7	16 16		55 55	
	5 5	17* 17,3		60 60	
	5,7 5,7	19 19			
	6,1 6,1	22 22			
	7,4 7,4	25 25			
	8* 8	28 28			
	8,5 8,5	32 32			
	9,8 9,8	36 36			

Example: 20A14X073 - Hydraulic gear pump, 20 group, direction of rotation - counter clockwise, displacement 14 cm³, modification 073.

* - These pumps - only under a special order