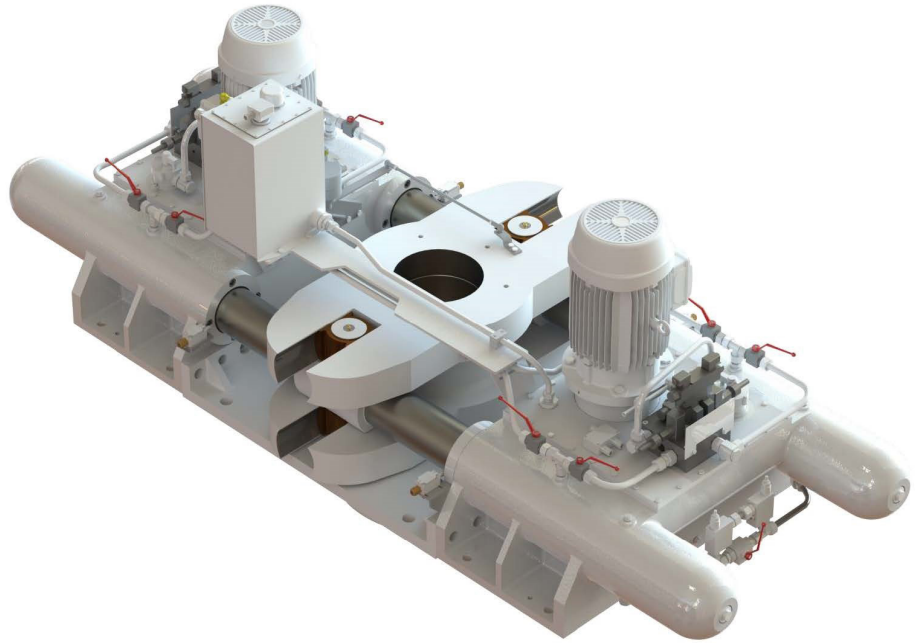


Steering gear

HATLAPA RAM type POSEIDON



Structural features

- Electro-hydraulic driven
- 4 cylinders
- 2 rams
- Rudder stock diameters 250 - 500mm
- Working torque 160-1280 kNm
- For 2x 35° or 2x 45° rudder angle
- Hydraulic pumps of fix displacement (Poseidon 1300 variable displacement)
- Incorporated electro hydraulic drive and rudder carrier with shaft sealing
- Compact design, no assembly work at Shipyard
- Conical hydraulic shrinkfit connection to rudder stock (keyway on demand)
- Installation on steel chocks
- Fastening by stopper or reamer bolts
- In emergency case easily separation and operation with 2 cylinders (manually, automatically)

On request we can deliver

- Motor starters
- Alarm
- Automatic isolation
- Rudder control
- Rudder angle indicator systems
- etc.

Special designs

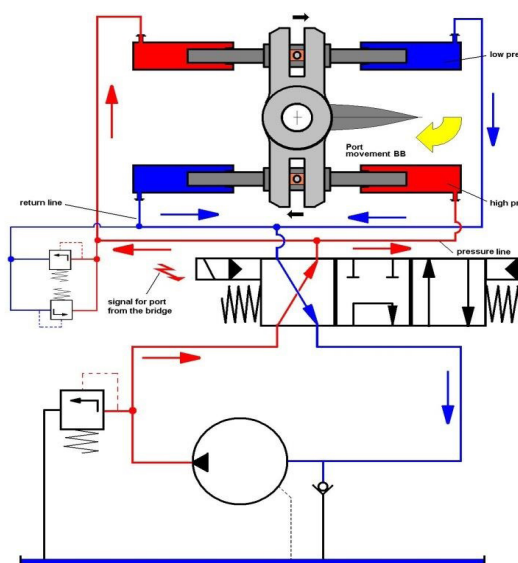
- Available on request

Technical data

Type			150	250	400	500	700	900	1300
Working torque* at 35°	[kNm]		161	252	413	525	730	900	1280
Max rudder stock diameter	[mm]		250	300	340	380	420	460	500
Length	L [mm]		2175	2560	2800	2900	3260	3470	3980
			2430	2920	3250	3620	4080	4260	-
Width	B [mm]	± 35°	1020	1110	1300	1400	1500	1580	2280
		± 45°	1050	1110	1350	1500	1650	1715	-
Height	H1 [mm]	± 35°	820	810	1050	1000	1100	1165	1500
		± 45°	780	1010	1050	1150	1200	1280	-
Depth	H2 [mm]	± 35°	225	300	310	350	400	430	385
		± 45°	255	300	310	345	360	360	-
El. Motor output at 50/60 Hz**	[kW]		2 x 9.5	2 x 14	2 x 23	2 x 29	2 x 37	2 x 46	2 x 61
Oil charge (approx)	liter [l]	± 35°	110	200	300	340	370	460	250
		± 45°	160	240	350	380	480	620	-
Weight	[kg]	± 35°	2200	3450	4800	5050	7000	9150	12700
		± 45°	2300	3750	5280	7000	9000	11200	-
Admissible axial / radial load on rudder carrier	[kN]	± 35°	435/690	600/990	750/1150	1700/570	1800/620	2015/720	2500/620
		± 45°	435/690	600/990	750/1150	1400/1370	1780/1540	2180/1750	-

* at working pressure

** according to IEC 92-204: duty S 6-25%.



Features

- Pump is switched on (bridge panel, starter cabinet)
- Without a control signal the directional valve is in the neutral (middle) position
- According to the control signal the directional valve is switching in the working position
- The hydraulic oil will delivered to two cylinders (red)
- The ram is getting out and the oil of the opposite cylinder will be delivered back to the pump (blue, close-loop)
- The to and fro going movement of the ram will be transferred via the ram pin and the sliding block into a rotating movement of the tiller

MacGregor shapes the offshore and marine industries by offering world-leading engineering solutions and services with a strong portfolio of MacGregor, Hatlapa, Porsgrunn, Pusnes and Triplex brands.

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