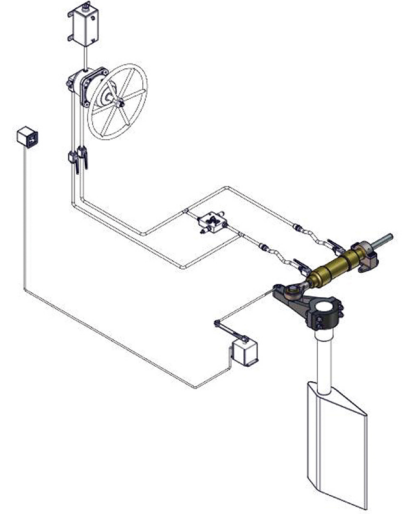
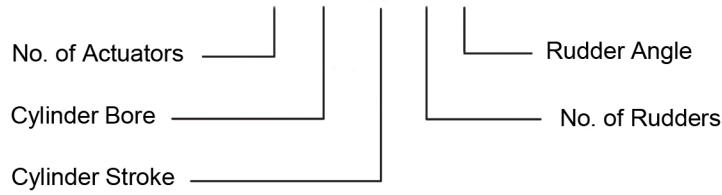


Jastram Model B Steering Gear

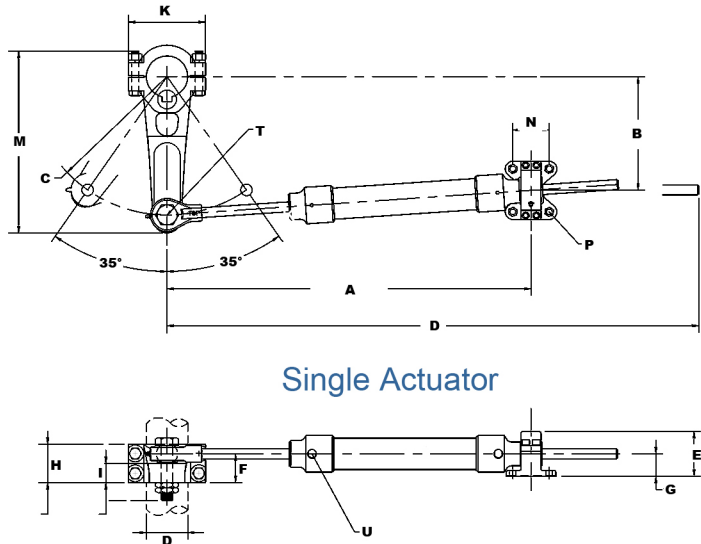
Jastram B Model Actuators are exceptionally durable and extremely reliable. They provide virtually maintenance-free performance. B Model Actuators are double-acting balanced displacement cylinders, which are directly connected to the tiller.

Model B Steering Gear Code

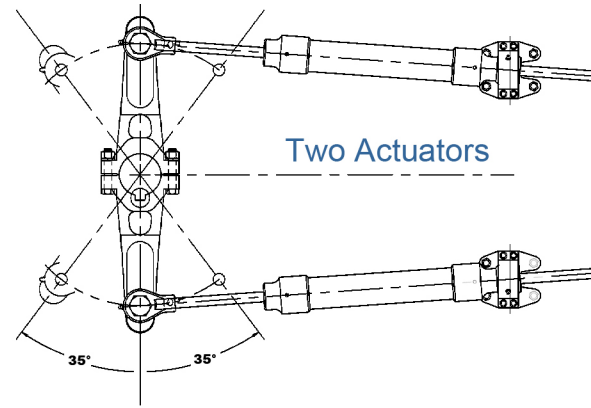
Example: B2 - 76 - 300 - 1 - 35



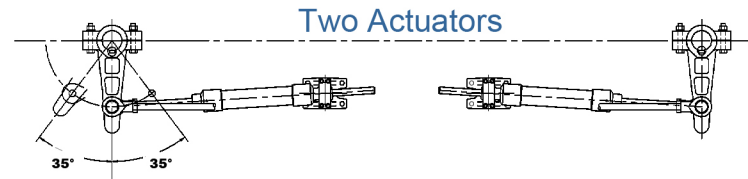
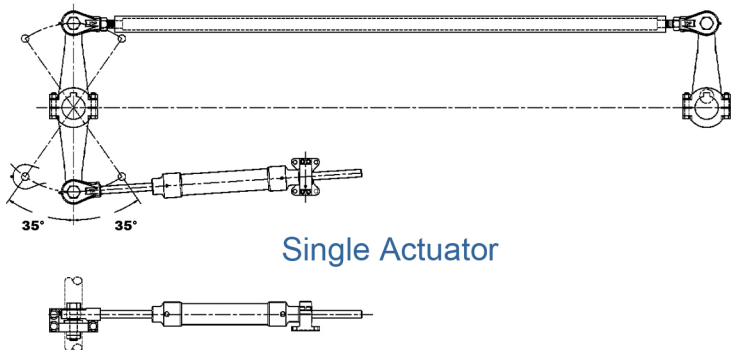
Steering Gear Arrangements



Single Rudder



Twin Rudder



Steering System Specification

The actuator sizing is primarily dependent on the maximum rudder torque required. Torque calculations should be confirmed by a naval architect or designer. For more information on actuator sizing please contact your local Jastram distributor.

STEERING SYSTEM SPECIFICATIONS (METRIC)																								
STEERING GEAR MODEL	RATED TORQUE 1 CYLINDER		RATED TORQUE 2 CYLINDERS		DISPLACEMENT (cm ³)	CYLINDER MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	T	U
	Nm	LBF.FT.	Nm	LBF.FT.																				
Bx-38-120-x-37	530	391	1062	783	113	B-38-120	404	80	100	545	75	32	46	37	21	17	140	48	257	82	50	10	16	SAE -04
Bx-38-190-x-37	841	620	1680	1239	179	B-38-190	509	126	158	723	75	32	46	37	21	17	140	48	257	82	50	10	16	
Bx-50-190-x-37	1552	1145	3106	2291	331	B-50-190	541	126	158	746	86	55	47.5	76	37	25.4	148	79	360	90	62	13	22.2	SAE -06
Bx-50-300-x-37	2451	1808	4904	3617	523	B-50-300	699	199	249	1020	86	55	47.5	76	37	25.4	148	79	360	90	62	13	22.2	
Bx-76-190-x-37	3360	2478	6719	4956	716	B-76-190	644	126	158	878	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8	SAE -08
Bx-76-230-x-37	4069	3001	8139	6003	867	B-76-230	695	154	191	972	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8	
Bx-76-300-x-37	5305	3913	10611	7826	1129	B-76-300	806	199	249	1160	126	75	72	76	37	38.1	148	79	360	115	95	16.3	31.8	
Bx-76-300-x-37*	5305	3913	10611	7826	1129	B-76-300	806	199	249	1160	126	75	72	102	49	38.1	198	105	475	115	95	16.3	31.8	
Bx-76-400-x-37	7187	5301	14373	10601	1531	B-76-400	961	270	338	1416	126	75	72	102	49	38.1	198	105	475	115	95	16.3	31.8	

TORQUE RATING IS DETERMINED AT 1000 PSI (69 BAR) AND 35°, MAXIMUM R-ANGLE 37°
* ACHIEVABLE UP TO A RUDDER STOCK DIAMETER OF 4-1/8" (105mm)

Items to note on small steering systems:

- Double Acting Relief and Bypass (DARBs) valves are suggested to protect the steering gear
- Header tanks or autofill valves are suggested to prevent the introduction of air or the loss of steering due to low oil levels
- A system pressure of around 500 PSI (35 BAR) is suggested for manual steering systems
- Shut off valves are suggested at each component in the hydraulic circuit
- Tube or pipe sizing is based on the helm pump information, see Jastram H Model Helm Pump Cutsheet for details

Jastram Actuators require the following items for installation:

- Tiller bolts
 - Hoses
- Jastram Actuators are serviceable. Standard seal kits are available and should be changed regularly:
- JA-950002-1, B-38 seal kit
 - JA-950003-1, B-50 seal kit
 - JA-950004-1, B-76 seal kit

Recommended Tubing Size

HELM PUMP MODEL	DISPLACEMENT (in ³)	Distance between Helm and Cylinder			Min. Wall Thickness	
		50FT	65FT	95FT	Tube Dia.	Wall
H20/H26/H36	2.0/2.6/3.6	1/2"	5/8"	5/8"	1/2"	0.035"
H58	5.8	5/8"	5/8"	3/4"	5/8"	0.049"
H60/H90	6.0/9.0	5/8"	5/8"	3/4"	3/4"	0.049"
H110	11.0	3/4"	3/4"	1"	1"	0.065"

- Seamless hydraulic steel, or copper tubing (minimum working pressure of 1000 PSI (69 BAR) is recommended. The following table can be used as a guideline for sizing tubing.
- Nominal tube outside diameter and wall thickness based on SAE standards
- DO NOT USE PLASTIC TUBING.