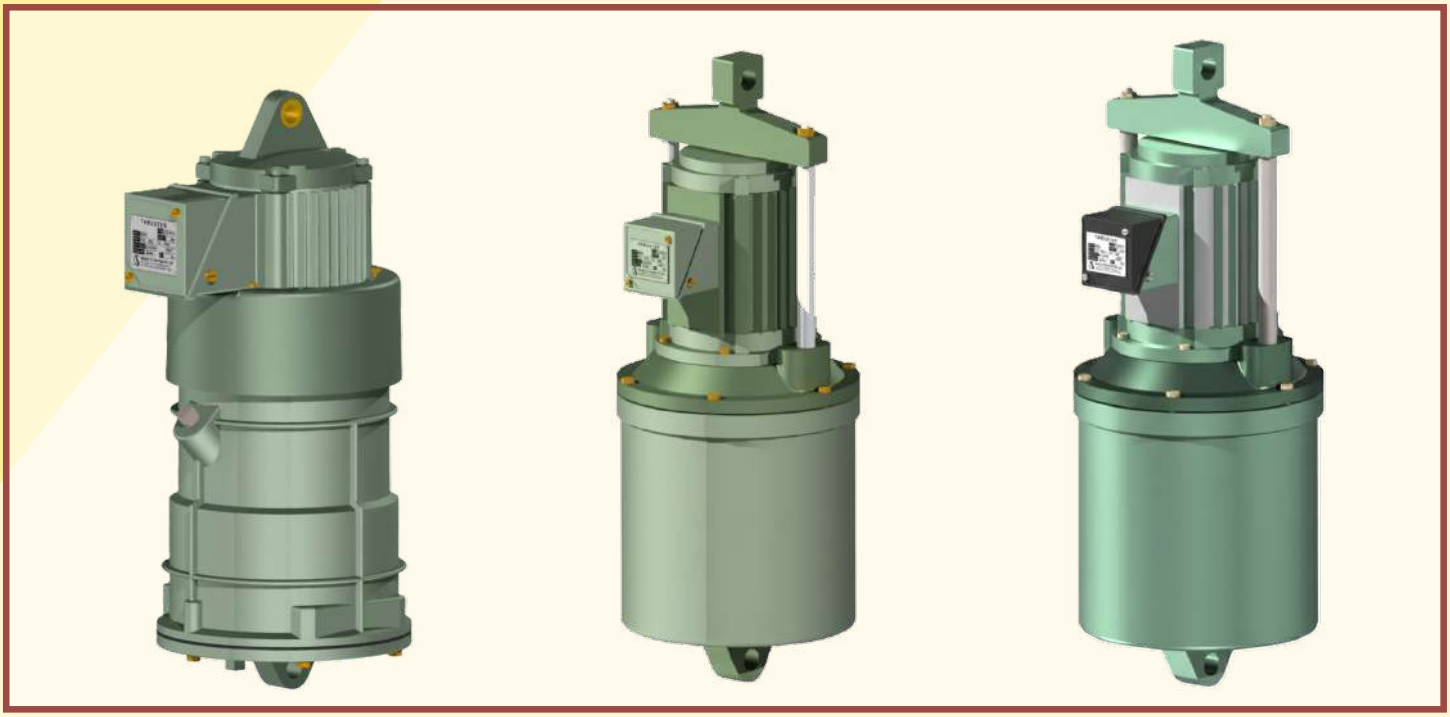
ST THRUSTER



GENERAL INSTRUCTIONS FOR ALL THRUSTER

SOC make Thrustors incorporate a rotor-stator-driven centrifugal impeller which pumps oil under a piston to exert an upward thrust on the thrust bar. They are designed to meet all relevant Indian Standard requirements and are carefully inspected and tested to ensure that they comply with these requirements and are safe in operation. Non Standard Voltage available on request.

Thrustors are supplied without oil and must not be operated until they have been filled with the correct grade and Qty of oil. (Transformer oil conforming to IS:335-2018-5th REV grade or equivalent). The relevant BS no for this oil is BS:148, grade B.

ELECTRO-HYDRAULIC THRUSTERS ST (TECHNICAL SPECIFICATION)

Electro-Hydraulic Thrusters is a device which develops linear thrust (or force) required to operate the required mechanism. The input to the device is three phase supply. The thrusters are widely used to actuate. Truster Shoe Brakes, commonly used in material handling machines. Trusters in various models develop 15 kg to 295 kg. In stroke lengths of 51, 76 and 127 mm.

Motor : 3 Phase squirrel cage motor construction.

Made Of Operation : Continuous operation & intermittent Service 50°C ambient temperature.

Voltage : 400/440 volts, 50Hz, 3ph, AC. All are on principle star Y connected. Special winding 380V/550V/690V Are available on request.

Terminal Box : 3 Pole terminal connection screw M4.Cable 3 x 2.5 sq mm and flexible recommended.

Cable Gland : Pg-11 for conductor size upto 3 x 2.5 sq mm.

H. O. Unit -I : C-15/16, Nand Jyot Industrial Estate, Andheri-Kurla Road, Mumbai - 400072 ,
Tel : (022) 42469700/730
E-mail : sales@socgroup.in

Unit - II: Plot No. 4912, G. I. D. C., Phase IV, Vatva,
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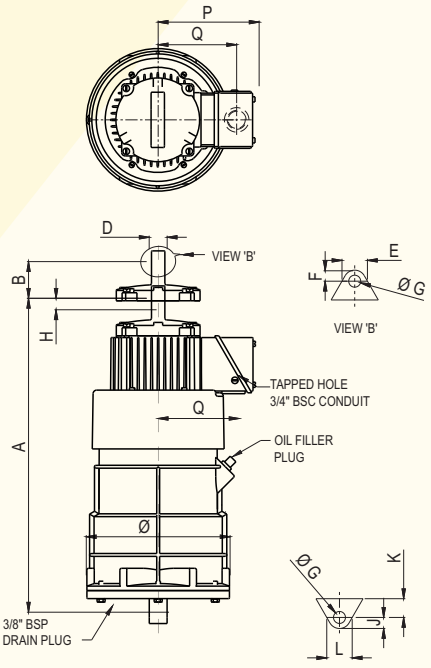
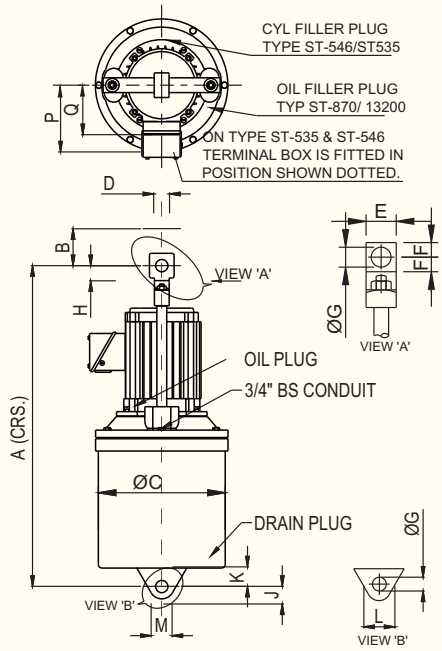
CRANE CONTROL GEAR

ST THRUSTER

THRUSTER ST-515 / ST 518 / ST 520



THRUSTER ST-535 . . . ST-13300



DIMENSIONS

TYPE	RATED THRUST kgs. (N)	OUTPUT STROKE mm	INPUT WATTS	CURRENT (Amps)	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	WT (Kg.)	* OIL CAPACITY LITERS
ST 515	15 (150)	51	90	0.4	280	51	130	19	25	13	12.7	19	16	19	30	19	105	85	6	1.20
ST 520	18 (180)				349		159								32		110	90	6	2.0
ST 535	34 (340)		150	0.5	444		171	22	29	14	19.7		21	27	41	25	138	118	16	2.5
ST 545	45 (450)		180																	
ST 870	68 (680)	76	200	0.80	508	76	216	25	32	16	22.2	25	24	29	48	32	152	132	34	4.5
ST 8110	114 (1140)		250																	
ST 13200	225 (2250)	127	420	1.40	660	127	254	32	38	19	25.4	30	27	45	54	38	152	132	55	9.0
ST 13300	295 (2950)		580																	

INSTALLATION

Mounting & Filling :

Mount the thrustor within 10° from vertical position (right angle) to avoid leakage of oil. Connect it by pin-joints to its load so that side pressure, which may cause binding is avoided. The thrustor must be free to pivot slightly when working.

The thruster is supplied without oil and must not be energized until it has been filled with oil. All thrusters are fitted with Filler and Drain plugs. Wipe away any dirt accumulate around the oil filler plug in the tank cover. There is also an oil level plug at the side on the top of the tank for Thrusters ST-520, ST-535, ST-545, ST-870 to ST-8110. For ST-520 level plug is not provided. Remove both Filler and side plugs and fill oil slowly through the top plug hole until it overflows through the side plug hole. Replace both plugs and operate the thrustor electrically or by hand several times; to remove any air voids trapped. It will operate in a jerky and irregular manner initially due to the fall of the oil level . Repeat this process until a smooth operation of the thrustor is obtained on repeated operation. Take great care that only clean oil is used and that no dirt enters the thruster.

CONNECTIONS :

These units are wound for direct-on-line starting. The direction of rotation of the motor does not matter.

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OIL FOR THE THRUSTOR

The oil used is transformer oil to IS:335-2018 (EHV Grade or equivalent). It is essential that only clean oil is used for topping up. This oil is suitable for operation at temperatures down to -110°C but the thrustor may be sluggish at lower temperatures. For operation in ambient temperature down to -45°C. The use of Mobil AERO HFA (or equivalent) is recommended.

MAINTENANCE

Thruster Unit :

The thruster is lubricated by its operating oil. It is recommended that the oil is changed after the first three months of operation and that subsequently it is drained and examined every 12 months. If it is clean it may be re-used but otherwise the thruster must be refilled with new oil (See Installation - Mounting & Filling).
To drain the oil from the tank remove the drain plug from the bottom of the tank.

It is advisable to check periodically that the oil is full in the thruster tank as evaporation may take place with a hard worked thruster.
If it is necessary to dismantle and overhaul the thrustor at any time take great care that no dirt drops into the tank or remains in the piston or other parts when the unit is reassembled.

The piston must always be able to move freely up and down in the cylinder- check this by lifting and lowering the motor cap of ST-520 and thrust bar along with T-connector for all other Thrusters several times.
Under normal condition an oil change will probably be required every two years, but in a dusty atmosphere it may require changing more often. If oil is not changed regularly, sludge, water and acid may form due to oxidation.

Motor Bearing Lubrication :

All motors have the bearings correctly charged with grease when they leave the workshop of SOC. This will suffice as lubrication for two years of continuous running under normal conditions. After two years of normal running the bearing end caps should be dismantied and the bearings, housings and caps washed out with a mixture of eight parts of petroleum spirit and one part of light machine oil (note- This mixture is highly inflammable) taking care to exclude all dirt and dust. The bearings should be examined and if worm replaced. Bearings should then be lightly packed with grease. Fill the grease cavities in the housings and caps with grease to about two-thirds of their capacities to ensure that the supply of grease is always in contact with the bearings (do not pack too lightly, however as overheating might result). Care should be taken that no dirt, grit or moisture enters the bearing housing.

The shell Alvania Grease RA used for the thruster motors is a lithium base grease suitable for high and low temperatures. It must not be mixed with grease of any other base.

Fitting of Bearing :

When fitting a bearing the parts should be lubricated with a little of oil. The bearing should be driven onto the shaft as gently as possible. A short length of pipe fitting closely round the shaft is the best tool to use. Never strike any part of a ball or roller bearing with a hammer. If motor is removed for any reason then care should be taken to protect the bearings from dirt.

Vantilation :

Occasionally remove dirt from internal and external surfaces of stator and rotor so as to allow uninterrupted ventilation.

Renewals & Spares :

When ordering new parts or spares all of the nameplate details should be quoted. Two separate nameplates have been provided for the Thrustor and Brake. The name plate on the Thruster will show the rate of thrust, stroke, voltage and current. The nameplate on the Brake will show the brake Dia, Braking Torque.

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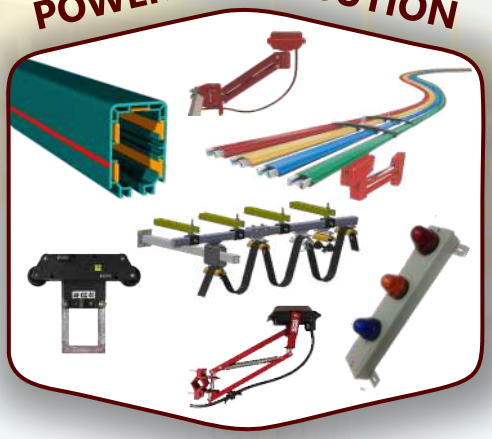
CRANE CONTROL SOLUTIONS

CRANE CONTROL GEAR

POWER DISTRIBUTION



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