ELECTRO- HYDRAULIC THRUSTERS (ELD)

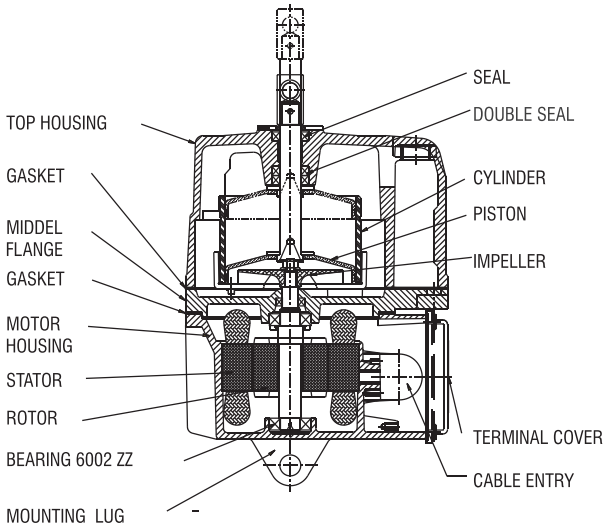
In addition to the wide range of applications in mechanical engineering applications, the thruster operated drum brakes are mainly used in material lifting and handling equipment, mainly because their 'Fail-to-safety' designs ensure safety to men and machines in the event of power failure. Withthe advancement in electrical drives and electronics, the drives have pushed the mechanical systems to high levels of operations, and demanding safer and reliable braking loads moving at much higher speeds than earlier. Continuous developments in product improvisation and assured quality checks, the thrusters offer compact, reliable yet economical solutions to most of the industrial applications.

CONSTRUCTION FEATURES AND OPERATION

The two main sub-assemblys of the hydraulic thruster, the electric motor and the hydraulic unit are co-axially assembled form the working unit. In the switched off state (de-energised) the piston is at its lowest position due to external load (as brake spring of the drum brake), and the brake is applied. When energnised, the electric motor drives the centrifugal pump and delivers woking fluid under the piston axially in the guided path, and delivers thrust or force required to operate the attached devise (like thruster brake) via the piston rod and the eye-lug attached to it. The working stroke can be steplessly controlled by external load.

The delivered thrust is jerk-free, smooth, in constant magnitude and perfectly linear, Except at the end positions, the power intake of the motor is reduced as compared to the power demand while lifting. This makes the thermal over-load protection to the motor unnecessary .The asynchronous motor can be wound for any suitable line voltages, but the supply frequency must be maintained at 50 Hz, because the performance of the centrifugal pump is highly sensitive to motor speeds. If the thruster is required to operate at any other frequency, the components must be altered at factory

Eld 23/5

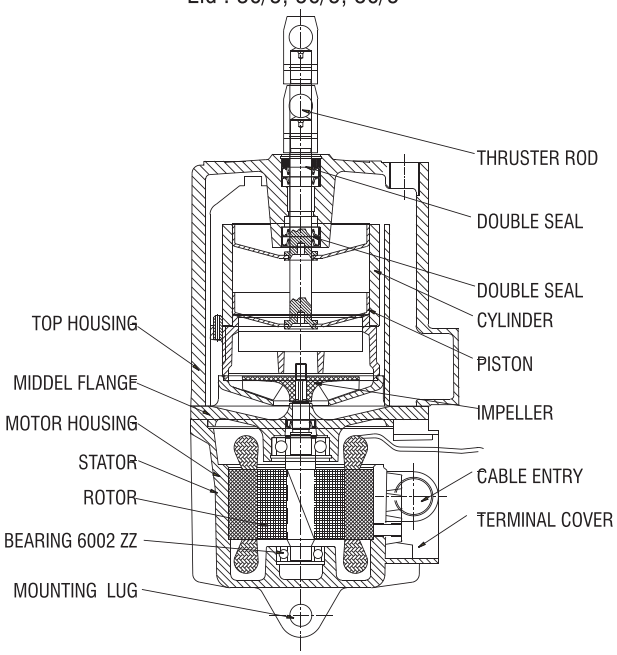


As the motor is free from mechanical over-loads, the only external constraint is the ambient temperature. No special precautions are needed for ambient temperature range of +45˚C to -10˚ C. Ambient temperature has also direct effecton the kinematic viscosity of the working fluid, and thus affectsthe power intake by the motor. The response times of the thrustsare also affected The linear speed of the piston, excepting theend positions, is constant. The centrifugal pump impeller has radical vanes and is equally efficient in both directions. herefore, the supply leads to the motor terminals can be erminated irrespective to the phase sequence. The motor winding is star connected, with internal star point.

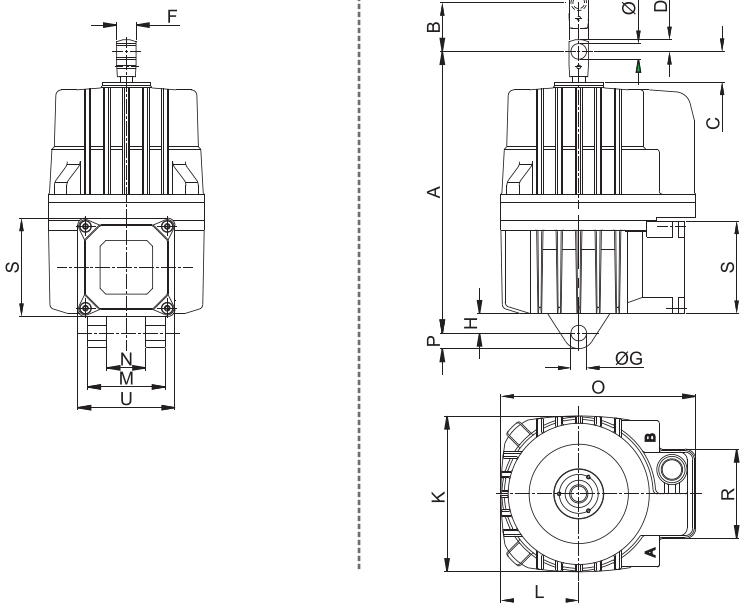
PERFORMANCE FEATURES

- Compact, light weight and elegant design.
- Reliable and maintenance free operation.
- Smooth jerk free perfectly linear motion
- Low noise, and does not emit electrical disturbances.
- IP-55 degree of protection.
- Suitable for out-door installation.
- Lower power input.
- Up to 720 operations per hour.
- Easy mounting and dismounting.
- Bi-direction operation.
- Immune from external voltage variations.
- Class F insulation scheme.
- Windings for any voltages up to 600 AC

Eld : 30/5, 50/5, 80/5

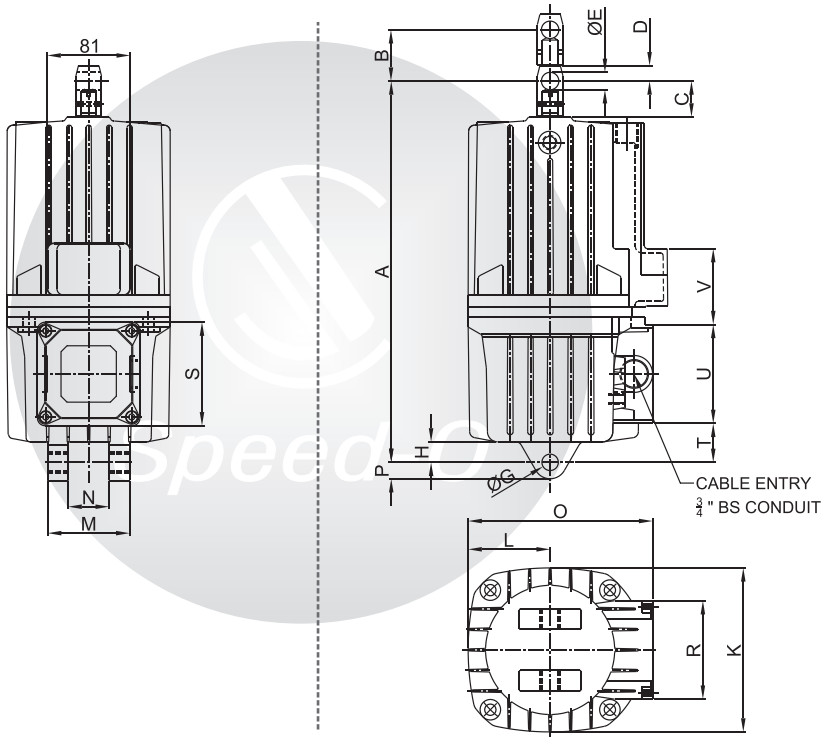


Electro-Hydraulic Thrusters Dimensions (Eld)



Eld- 23/5

Eld - 23/5	286	50	26	12.7	16	20	16	20	160	80	80	40	200	16	92	95
TYPE	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**K**	**L**	**M**	**N**	**O**	**P**	**R**	**S**



Eld- 30/5, 50/6, 80/6

Eld 80/6	450	60	36	18	20	30	20	20	195	97	120	60	254	22	90	100
Eld 50/6	435	60	36	18	20	30	20	20	195	97	120	60	254	22	90	100
Eld 30/5	370	50	34	15	16	25	16	18	160	80	80	40	197	16	80	100
TYPE	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**K**	**L**	**M**	**N**	**O**	**P**	**R**	**S**