HSS-DC
Soft-Starter

HSS-DC
Soft-Starter for three-phase asynchronous electric motors with short-circuited rotor, from 7.5 kW to 800 kW

If an electric motor is not adequately protected, sudden changes in motor torque and rotational speed that occur during start-up and shut-down processes will cause shocks to both the motor and the equipment operated by it. Over time, this will lead to premature mechanical wear of clutches, gears, conveyors, etc. Sudden starting or stopping processes can also lead to the destruction of goods handled by electric motors. Therefore, the use of Soft-Starters has become a necessity. This equipment controls the voltage when starting and stopping the motors, in order to ensure smooth acceleration and deceleration, respectively. Thus, the unwanted effects of sudden starts and stops are eliminated.

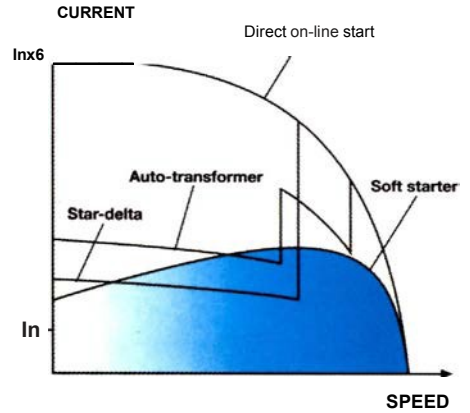
HSS-DC is a high-performance Soft-Starter with unique and sophisticated software features. The manufacturer's experience in the field, together with the powerful built-in "Intel" Microprocessor, offers the user numerous facilities, covering a wide range of applications.

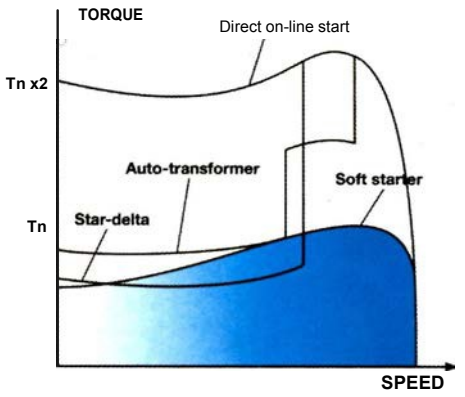
The digital prescription of the parameters and the liquid crystal display (LCD) allow an easy and fast dialogue with the equipment. Access to any desired parameter is easy to achieve, all messages are clearly displayed, and through the advanced self-diagnosis system, any failure is quickly located.

To improve positioning control, the equipment is provided with three reduced speeds and the possibility of reversing the direction of rotation at low speed, without the use of additional switching equipment.

In accordance with the company's policy, HOLLROM Consulting & Trading can achieve special "custom design" features thanks to the flexible software structure.

Reversibility for low speeds





Soft-Starters contribute to the performance of a more economical production process, eliminating mechanical and electrical wear of equipment.

Acceleration / smooth deceleration reduce heavy loads and shocks to which the machines are subject when starting and stopping. On pumping equipment, Soft-Starters eliminate pressure shocks in pipes and valves when starting / stopping the pumps. The gradual increase of the current also eliminates voltage drops, the appearance of circulating currents and overheating of motors. Preventing the occurrence of such phenomena reduces the wear of the mechanisms, allowing the uninterrupted operation of industrial processes for a long time.

The characteristic curves representing the gradual increase of the starting current as well as of the motor torque are presented in the adjacent diagrams. These curves are marked in contrast to those resulting from starting with classical means (direct, star-delta or autotransformer).

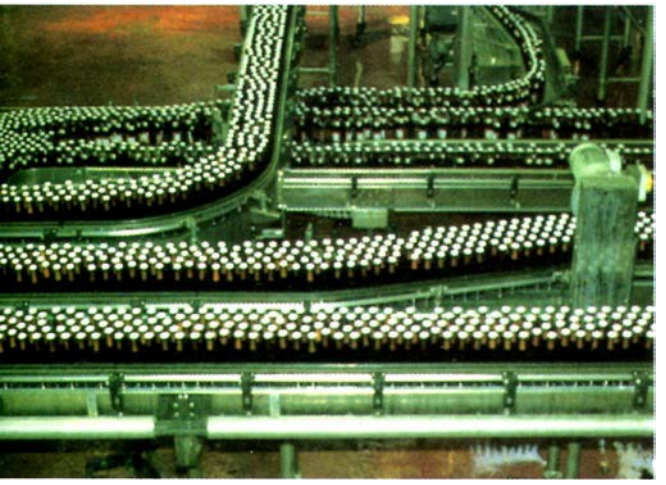
PREVENTING THE EFFECTS OF WATER HAMMER

The effects of water hammer, caused by the sudden start or stop of the pumps, can lead to the pipe breakage. The Soft-Starter contributes to a safer transport of liquids due to smooth starts and stops. The pre-set characteristics for pumping equipment ensure an easy and fast access to the operating parameters, for an optimal pumping process. The Soft-Starter holds a family of curves designed to prevent the effects of water hammer (HAMMERING PREVENT CURVE).

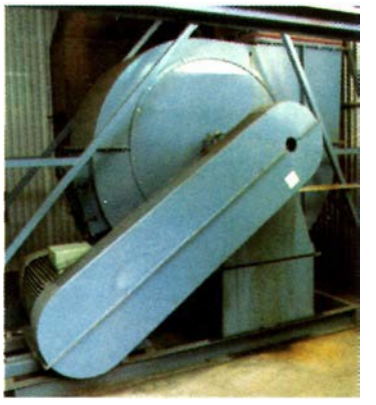
Two sets of operating parameters, which can be accessed individually and programed independently, ensure versatility and flexibility of any production process.

The Soft-Starter increases operational safety and reduces the number of mechanical failures when used to control circular or band saws.

The effects of water hammer in the pipes is eliminated by the slow start and stop of the pumps.



Gradual start-up and shutdown prevent accidents on brittle goods conveyor lines.



Smooth fan operation reduces mechanical wear and power consumption.

Reducing wear and increasing the service life resulting from mounting a Soft-Starter on a motor compressor.

NUMEROUS OTHER APPLICATIONS

In addition to the applications illustrated above, the Soft-Starter can be used to optimize the operation of a much wider range of equipment, including:

Heavy machinery

- Cranes
- Special pumps
- Centrifuges, etc.

MUCH MORE RELIABLE FANS AND BLOWERS

The performance of fans and blowers is much improved, due to smooth starting and reduced peak current at start-up. Conveyor belts last longer, mechanical system components withstand fewer shocks and the maintenance is minimized.

SMOOTH START OF THE COMPRESSORS

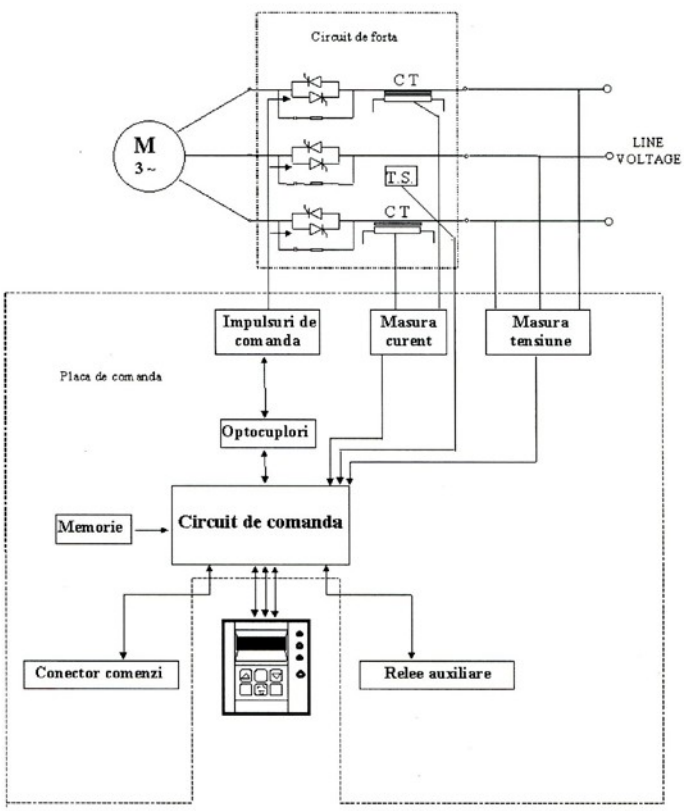
Reducing the peak current at start-up is the main benefit resulting from the installation of a Soft-Starter on a compressor. The wear of the mechanical parts of the compressor is also much reduced. All this leads to an increase in the life of the equipment, less damage, thus achieving savings.

TECHNICAL DATA Model	Power (kW)	Inom (A,RMS)	Degree of protection	Sizes (mm)	Weight (kg)
HSS-DC 7,5	7,5	18	IP20 / IP54	360x211x220	8
HSS-DC 11	11	26	IP20 / IP54	360x211x220	8
HSS-DC 15	15	31	IP20 / IP54	360x211x220	8
HSS-DC 22	22	46	IP20 / IP54	360x211x220	15
HSS-DC 30	30	61	IP20 / IP54	460x211x220	15
HSS-DC 37	37	74	IP20 / IP54	460x211x220	20
HSS-DC 45	45	90	IP20 / IP54	460x211x220	20
HSS-DC 55	55	109	IP20	560x211x220	28
HSS-DC 75	75	146	IP20	560x211x220	28
HSS-DC 90	90	175	IP20	447x484x244	40
HSS-DC 110	110	210	IP20	447x484x244	40
HSS-DC 132	132	250	IP20	M7x484x2M	40
HSS-DC 160	160	310	IP20	532x547x287	55
HSS-DC 200	200	375	IP20	532x547x287	55
HSS-DC 250	250	450	IP20	532x547x287	55
HSS-DC 315	315	570	IP20	687x640x302	62
HSS-DC 400	400	710	IP20	687x640x302	62
HSS-DC 450	450	835	IP20	687x640x302	62
HSS-DC 500	500	1000	IP20	900x875x345	71
HSS-DC 800	800	1400	IP20	900x875x345	71

COMMON FEATURES	
Supply voltage	3 x 400...415Vc.a. ± 15 %
Supply frequency	50 / 60 Hz
Motor voltage	0 -:- Supply voltage
Relative humidity	0 -:- 90 % (non-condensing)
Atmospheric pressure	88 -:- 106 kPa
Cooling	Forced, automatic
Degree of protection	IP 20 / IP 54
Emissions	According to Standard EN61800-3
Immunity (to external disturbances)	According to Standard EN61800-3
Electrical protection	According to Standard prEN50178

BLOCK DIAGRAM
Power circuit
Control board
Control pulses
Current measurement
Voltage measurement
Optical couplers
Memory
Control circuit
Control connector
Auxiliary relays

SCHEMA BLOC



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