



HITACHI INDUSTRIAL UPS SYSTEM FOR PLASTIC INDUSTRY - EXTRUSION MACHINE LINE

ABOUT HITACHI INDUSTRIAL UPS SYSTEM

With a vision of “To be recognized as the most trusted Power Electronics Company by supplying superior products and services”, Hitachi Hi-Rel Power Electronics Private Limited has garnered a significant level of trust in Indian power electronics market segment wherein it serves the entire gamut of Industries.

UPS, an Uninterruptible Power Supply, also Uninterruptible Power Source, is an Electrical Apparatus that provides Emergency Power to a load when the Input Power Source, typically mains power, fails.

Hitachi Industrial UPS System, the flagship product, is regarded as the ultimate solution to power problems by providing both Uninterrupted Power Backup and Power Conditioning. It works as an exceptional safeguard against power disruption and reflects the industry's ultimate in advanced technology with proven track record in mission critical applications.

ABOUT EXTRUSION MACHINE LINE

Plastic extrusion is a continuous high-volume manufacturing process in which a thermoplastic material is homogeneously melted and then forced out of the shaping die by means of pressure. Plastic extrusion has a wide range of applications including sheets, films, coatings, pipe, tubing, etc.

Plastic extrusion, also known as plasticating extrusion, is a continuous high-volume manufacturing process in which a thermoplastic material - in a form of powder, pellets or granulates - is homogeneously melted and then forced out of the shaping die by means of pressure. In screw extrusion, the pressure comes from the screw rotation against the barrel wall. As the plastic melt passes through the die, it acquires the die hole shape and leaves the extruder. The extruded product is called extrudate.

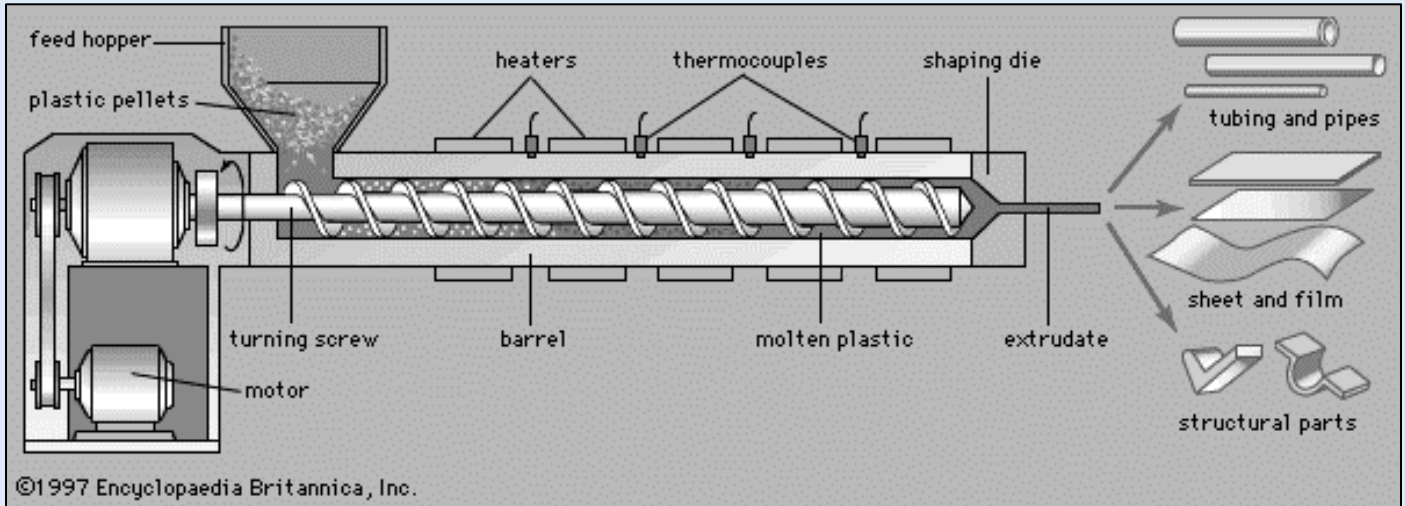
A typical extruder consists of four zones named Feed Zone, Transition Zone or Compression Zone, Mixing Zone and Metering Zone.

There are various designs of extruders available in the market today. These can be divided into two types depending on the mode of operation - Continuous extruders & Discontinuous extruders. Generally, the distinction between the two is the part which moves the material. Continuous extruders have rotating parts while discontinuous extruders have reciprocating components.

Extruder machine is consisting of Main extruder machine, Air compressor and Cooling & heaters tower and other small processing units

HITACHI INDUSTRIAL UPS SYSTEM FOR PLASTIC INDUSTRY - EXTRUSION MACHINE LINE

HITACHI
Inspire the Next



(Diagram showing extruder process)

CHALLENGE/ISSUES (What are the issues the customer used to face?)

Extruder machine-based plants are normally located outskirts of the city or in rural areas where voltage stability or fluctuation issues are high. Because of this, main machine power cards and other supporting cards get failed and hence customer has to buy the new power electronics cards. Also manufacturing process gets interrupted which forces customer to bear loss of production, material and valuable time. Program which is being fed into computer system also needs to reset due to power failure issues.



HITACHI INDUSTRIAL UPS SYSTEM FOR PLASTIC INDUSTRY – EXTRUSION MACHINE LINE

HITACHI
Inspire the Next

NEED FOR THE SOLUTION (What is the need for utilizing Hitachi Product?)

- To stop the failure of the new power electronics cards which gets failed due to power fluctuation issues
- To stop manufacturing process interruption
- To stop losses of production, material and valuable time
- To stop resetting the computer system program due to power failure issues.

HITACHI SOLUTION (How it helps in solving the Challenges/Issues?)

It's highly important to have uninterruptible power supply solution for the extruder machine which normally provides the total protection to machine by providing constant and stable power with backup time to critical load.

Many a times, customers have installed the auto DG sets for entire manufacturing plant, which starts within 30 to 40 seconds in the case of power interruptions or failure. But, on the contrary, customers need UPS system to provide the power backup for such continuous processes when mains inputs fail and auto DG switches ON.

Industrial UPS System offers;

- Continuous and stable power to critical load against input voltage fluctuations without any interruptions, as long as the backup is required
- Stable voltage and frequency as per the requirement of machine, to protect its processors, PCBs and critical electrical components.
- Isolation between main supply and load.
- Reduction in the machine repair cost.
- Production growth and smooth operation
- Effective return on investment

BENEFITS OF USING HITACHI INDUSTRIAL UPS SYSTEM IN MACHINE TOOLS APPLICATIONS

- No more machine burnout
- Low maintenance cost
- No more raw material losses
- No more production losses
- No more ideal manpower
- Timely fulfilment of commitments
- Customer loyalty

HITACHI INDUSTRIAL UPS SYSTEM FOR PLASTIC INDUSTRY – EXTRUSION MACHINE LINE

HITACHI
Inspire the Next

HITACHI INDUSTRIAL UPS SYSTEMS FOR EXTRUDER MACHINE APPLICATIONS

i6et UPS – Three Phase Output

Range: 30 kVA to 500 kVA

- Highly efficient IGBT based rectifier and inverter
- High energy efficient product with in-built double wound isolation transformer
- 200% overload for 7 sec. (Specially design for motorised applications)
- Suitable for regenerative power
- Capacity enhancement possible up to 6 units
- Bi-directional, 100% electronic static switch
- User friendly HMI interface



i6s UPS – Three Phase Output

Range: 10 kVA to 500 kVA

- Suitable for non AC environment (dust free)
- Digital Signal Processor (DSP) based control
- Input phase reversal protection
- In-built double wound isolation transformer
- Capable to withstand 100% unbalance load
- LCD display with keypad for fault diagnostic
- Bi-directional, 100% electronic static switch



ABOUT HITACHI HI-REL POWER ELECTRONICS PRIVATE LIMITED

Founded & established in 1983 as Hi-Rel Electronics Pvt. Ltd., which later on in year 2015 had become the 100% subsidiary company of Hitachi, Japan which is one of the Global fortune 500 companies with a new name as Hitachi Hi-Rel Power Electronics Private Limited, which is being recognized as one of the pioneers in power electronics domain. Hitachi Hi-Rel, today, is a leading manufacturer of Industrial UPS, IT & Infra UPS, Medium & Low Voltage Variable Frequency Drives, Grid Tied Solar Inverters, Air Compressors and Railway Inverters.

Hitachi Hi-Rel has state-of-the art manufacturing facility at Sanand near Ahmedabad in Gujarat-India. Hitachi Hi-Rel is helping a wide array of industries and organizations to meet the mission critical demands through technologically superior, low polluting and innovative products Solutions and continue to offer world class power electronics products, value added services & customized solutions.

With a vision of “To be recognized as the most trusted Power Electronics Company by supplying superior products and services”, Hitachi Hi-Rel has garnered a significant level of trust in Indian power electronics market segment wherein it serves the entire gamut of Industries, particularly in mission critical applications for Refineries, Petro-Chemicals, Power Generation, Steel & Metals, and Process Industries as well as Critical Data Processing Applications. Besides offering greater energy efficiency & lower carbon footprint, each of the company product streams bears the hallmark of excellence with company accreditations. Hitachi Hi-Rel is an ISO 9001:2015, ISO 14001:2015 & ISO 45001:2008 certified company having export house status. Hitachi Hi-Rel sales network & service infrastructure expands out to the world & with this network, we have made strong inroad in Global markets like South East Asia, Middle East, Africa and Brazil. Also, with a



HITACHI INDUSTRIAL UPS SYSTEM FOR PLASTIC INDUSTRY - EXTRUSION MACHINE LINE

HITACHI
Inspire the Next

presence of strategically located skilled service engineers in India helps us to score high in terms of customer expectations on service deliverables & uptime of the product.

With expertise, experience and an efficient product line, Hitachi Hi-Rel will always try to be your power electronics partner. When you choose to do business with Hitachi Hi-Rel, you are partnering with a company who cares.

FOR MORE INFORMATION

To know more about Hitachi Hi-Rel Power Electronics Private Limited and its offered products and solutions, please visit www.hitachi-hirel.com

You may also share your requirements at <https://www.hitachi-hirel.com/inquiry> to receive the phone call or Hitachi product information email from our authorized sales representative of your region.

© 2021 Hitachi Hi-Rel Power Electronics Private Limited.

All rights reserved. Information has been shared in good faith but is for general informational purposes only. No part of this document may be used, reproduced, photocopied, transmitted, or stored in any retrieval system of any nature, without the written permission of the copyright owner.

All the specifications in this document are subject to change without any prior notice.

www.hitachi-hirel.com

