

Turning Your Ideas into Reality



**VITAL FORCE**

ENGINEERING

*Turning Your Ideas into Reality*





## Company Profile

Vital Force Engineering Have Been Manufacturing Extrusion Lines Which are Used For the Production of Plastic Pipes. Vital Force Engineering has been offering its Productive, High Quality and Secure Turn-Key Project By Using the Latest Technology with Optimum Coast to Its Customers.

Vital Force Engineering has been Exporting its PP/PE/PVC/Corrugated and Different Types of Line too Many Countries. The Team Members of Our Company Have Been Continuously Increasing Their Knowledge By Giving Importance to Innovating Technologies.

### Our Mission

Based on out missionary values, we are dedicated to provide unsurpassed range of engineering products like PVC, HDPE, Corrugator Pipe, Extrusion Lines. This assists our customers in getting a wide range of sophisticated solutions of varied critical performance regarding their production activities. These products also aide them to integrate the product's functionality in an efficient manner.



**Inspur, your most reliable partner**





## PERFORMANCE FEATURES

- Latest generation Machine with High Performance.
- Low power consumption and energy saving with Heavy Output.
- Achieve uniform pumping.
- Two Piece Barrel Design For Low Maintenance.
- Front Side H.S.S Sleeve for Easy Screw Barrel Maintenance.
- Tungsten Coating for Wear & Tear.
- Internal Oil Circulation with Cooling System for Gear Box.
- Synchronization of drive of Extruder with Feeder and Traction Unit to reduce wastage and Fast Production.
- S.S -304 Vertical feeder for easy aclaption of different bulk density of materials.
- Gentle plasticizing, great melt quality with Material Mixing Formulation.
- Japanes PI D Control type Temperature Controllers Processor friendly.
- Raw-materials & brought out items from the world-class quality makers.



## ADVANTAGES

- Maintenance-free screw cooling system.
- Efficient barrel cooling system.
- AC motors with optimal degree of efficiency.
- Custom-made anti-wear protection made. of tungsten carbide and chrome combined with top-quality nitride surfaces.
- Output ranges maximized through. optimized screw geometries.
- Special power saving system with details.
- Easy handling through intelligent machine design.
- Easy and Extra Power Saving Systems.
- PLC controls on request.
- 10% to 15% Heating Power Saving Systems In PLC Bese Controll.
- Including Thick Thin Device for Casing and Column Pipe.
- High Alert System for Heating Tripping and Motors Tripping.
- Easy Operating System.

## SAFETY FEATURES

- Cold by pass for screat barrel safety.
- Zero start system.
- Yaskuwa drives with heavy dust proof secours.
- Easy plug & play systems.
- All standard controllers.



## Product Range

Model	VTS 110	VTS 170	VTS 200	VTS 250	VTS 350	VTS 450	VTS 550	VTS 700
Screw Dia (mm)	52	52	65	65	71	91	91	92
Screw Speed (RPM)	5-50	4-45	5-53	5-53	5-53	4-40	4-40	4-40
L.D. Ratio	20:1	18:1	18:1	22:1	28:1	22:1	25:1	28:1
Main Motor (kW)	11	15	22	22	30	45	56	75
Output ( Kg/Hour)	90-100	150-170	180-200	230-250	330-350	420-450	520-550	650-700

\* Performancevariesde--pendingon pi--pedimensand " of material.



Vital Force Single Screw Extruders /High Speed Series (HDPE/PPR) are offered for extrusion of polyolefin (HDPE, HDPE PLB Ducting, PP, PP-R & LLDPE, LDPE) pipes. The extruders with screw diameters 25mm to 120 mm are available for output range 5 Kg./hour to 1500 Kg/hour. The Next Generation Extruders with a combination of Barrier Screw and grooved feed bush results into higher output rates, homogeneous plasticizing and less material slippage.

## ADVANTAGES

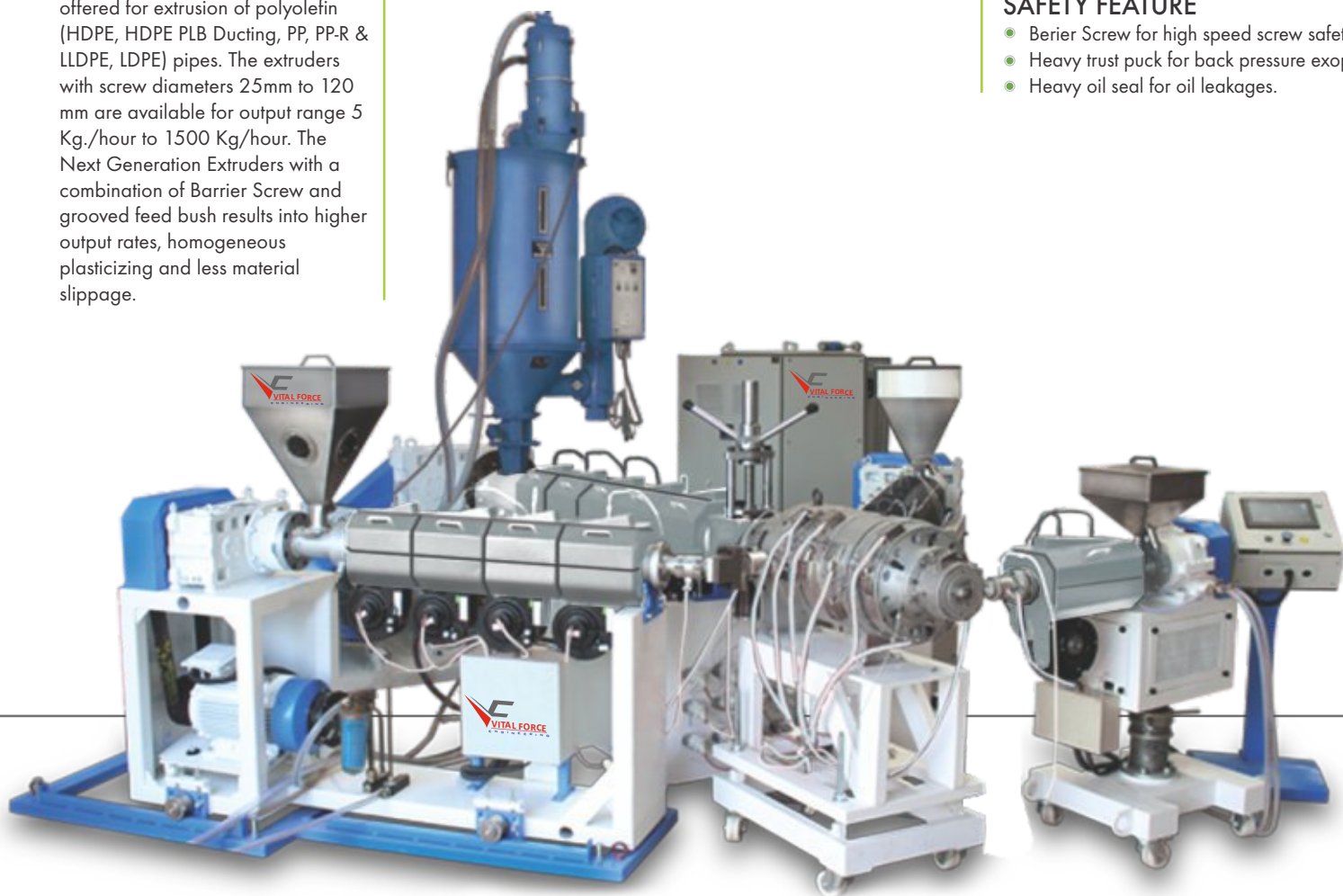
- Higher output rates.
- High Speed Models for Reduced power consumption.
- Wider range of processing applications due to longer LD ratio.
- Superior physical properties of end product.
- High Power Savings Systems with New Generation Machinery.
- PLC controls on request.
- 10% to 15% Heating Power Saving Systems In PLC Base Controll.
- Including Thick Thin Device for Casing and Column Pipe.
- High Alert System for Heating Tripping and Motors Tripping.
- Easy Operating System.

## BARRIER SCREW

- It allows high homogenous-plasticizing less material-slippage and higher output.
- Grooved Feed System.
- Higher productivity compared to-conventional design.
- Improved material conveying capacity.
- Uniform throughout and melt temperature.
- Pressure invariance.

## SAFETY FEATURE

- Berier Screw for high speed screw safety.
- Heavy trust puck for back pressure exope.
- Heavy oil seal for oil leakages.



## Product Range

Model	VS 25*	VS 40	VS 50	VS 65	VS 75	VS 90	VS 120
Extruder Drive (kW)	3.7	7.5	15	30	37.5	60	110
Screw Dia (mm)	25	40	50	65	75	90	120
L.D. Ratio	24:1	26:1	26:1	26:1	26:1	26:1	26:1
Output (Kg/Hour)	45	18-20	36-40	90-100	120-130	170-190	300-320

## Product Range

Model	High Speed 45-45	High Speed 45-55	High Speed 45-75	High Speed 45-90	High Speed 60-110	High Speed 60-132	High Speed 75-200	High Speed 75-250
Screw Diameter (mm)	45	45	45	45	60	60	75	75
L.D. Ratio	37:1	37:1	37:1	37:1	37:1	37:1	37:1	37:1
Main Motor (kW)	45	55	75	90	110	132	200	250
Output (Kg/Hour)	140-160	180-190	220-240	300-330	380-400	500-550	650-700	800-850



## DIE HEADS

- Vital Force PVC pipe head and HDPE Pipe head, enables flexible and effective production of High-Quality PVC pipes.
- All pipe heads from Unique char excellent advantages such as high and disassembly; they produce pipes of excellent quality in a broad processing.
- Vital Force provides Spider Dies, right up to 630mm die with Single and Dual.
- High Diamond Chrome Platings.
- Spider and Spiral Make S.S with Harding. as per apply.

## ADVANTAGES

- High Volume low pressure design.
- Uniform melt distribution through out the entire pipe circumference.
- Twin die heads for higher outputs in smaller size of pipes.
- Dual die with dual downstream for pipe size 20-110 mm S, 63-200 mm.
- Extruder utilization from 30%to 100% in larger dia of pipes.



## PVC PIPE DIE HEAD SPECIFICATIONS

Model		P-63	P-110	P-200/LV	P-200/HV	P-250	P-315	P-400
Pipe Range	mm	20-63	20-110	63-200	63-200	90-250	110-315	160-400
Output Capacity up to	Kg/hr	100	200	250	320	425	550	700
Pipe Wall Thickness	mm	08 - 2.0	1.0 - 5.0	2.5 - 6.0	2.5 - 12.0	2.5 - 12.0	3.0 - 16.0	3.0 - 16.0

## HDPE PIPE DIE HEAD SPECIFICATIONS

Model		SM-50	SM-110	SM-160	SM-250	SM-450
Pipe Range	mm	12-50	20-110	20-160	63-250	90-450
Output Capacity up to	Kg/hr	200	350	500	800	1000



## VACUUM SIZING TANK

- Material Intensive cooling provided to ensure high production ratio.
- Easy cleaning bayonet type spray nozzle provided.
- Accurate vacuum control, water level control & temperature control provided.
- Additional vacuum chamber and motorized axial movement.
- Provided from VVST and above for quick startup and less wastage.
- Manual slide rail arrangement for Axial and transverse movement of the tank.
- Dual vacuum spray tanks on common frame for dual pipe extrusion line.
- Imported filters for online cleaning.
- Electrical operated valves optionally.
- Cyclone separator for vacuum pump optionally.



## VACCUM SIZING TANK

Models	Unit	VVST 110	VVST 200	VVST 250	VVST 315	VVST 450	VVST 630
Pipe Range	mm	16-110	20-200	25-250	75-315	75-450	110-630
Length of Tank(mm)	mm	4000/6000	4000/6000	4000/6000	6000/8000	6000/8000	6000/8000
No Of Chambers	-	1	1	2/1	2/1	2/1	2/1

Vacuum Sizing Tank - Vital Force Engineering ,manufacturers, exporters & suppliers of Vacuum Tank, Twin Vacuum Sizing Tank, Plastic Vacuum Sizing Tank in India.



## TUBE COOLING TANK

- Tank MOC Mild steel or SS 304 As per requirement.
- Easy cleanable bayonet type spray nozzles.
- Manual / motorized longitudinal adjustment on rail.
- Special type of filter for cleaning during operation.
- Height adjustable manually.
- Fixed structure provided in Extra Cooling Tank.
- Special design in ACRYLIC door for easy pipe operating as per application.



### TUBE COOLING TANK

Models	VCT 110	VCT 200	VCT 250	VCT 315	VCT 450	VCT 630
Pipe Range(mm)	20-110	20-200	20-250	75-315	100-450	110-630
Length of Tank(mm)	4000/6000	4000/6000	4000-6000	4000/6000	4000/6000	4000/6000
No Of Chambers	1	1	1	1	1	1



## Vital Force Offers Tube Traction Unit With Following Features :

- Up to 6 belt tracting device to suit pipe diameters.
- Different line speeds can be changed through.
- Individual Gear Box System with Servo Drive and Motor.
- Track adjustment by pneumatic control and Manual Control.
- Self adjustment track suspension provided with Pneumatic System.
- Counter balance pressure to balance.
- Track weight for thin pipes offered.
- Encoder for length measurement & feed back arrangement offered optionally.
- Easy accessibility for maintenance of all components.
- Dual twin-track traction units for dual pipe extrusion line.
- Easily removable rubber pads / Molded Rubber Chain.







## Planetary Cutting Unit (PCU)

- Preferred for pipe diameter range 50-400 mm
- Swarf removal executed by a suction blower
- Chamfering and Universal Clamping system available
- Mechanical actuator instead of hydraulic or pneumatic
- 4 and 6 Jaw universal clamping
- On line chamfering provided if needed
- Chamfering without replacable ring
- Direct Gear drive for rotating drum » Compact Swarf extraction system
- Power supply through slip ring - No moving cables
- Battery back-up for auto saw withdrawl



## TUBE CUTTING UNITS (TCU)

- Carbide tipped rotating circular saw for longer life
- Pneumatically operated carriage movement
- Clamping force adjustable depending upon the wall-thickness of the pipe
- Swarf removal system optionally offered

### Planetary Cutting Unit (PCU)

Model	Unit	PCU 250	PCU 400
Pipe Range	mm	50-250	75-400
Cutting Speed (Max.)	Mtrs/Min.	10	7
Jaw For Clamping	-	4	6
Clamping From	-	-	Universal

### Tube Cutting Unit (TCU)

Model	Unit	VCU 110	VCU 200	VCU 250	VCU 315	VCU 110/2	VCU 200/2
Pipe Range	mm	20-110	20-200	50-250	90-315	20-110	50-200
Cutting Speed (Max.)	Mtrs/Min.	15	10	10	6	12	15
Clamping From	-	Top	Top	Side	Side	Top	Top



## TUBE TILTING UNITS

- Pneumatically operated Unit .
- Structure MOC Square hollow section.
- Two limit switch actuation - One for pipe cutter feedback and other for tilting the pipe.
- Pipe resting platform provided for above 250mm Dia Pipe.



# SPIRAL SPRING CONVEYOR



- We Vital Force Engineering Where Technology combines with engineering brilliance to give the cutting edge to the Plastic Processing equipments. We believe that the solution arises from within the problem, hence one users friendly and cost effective solution to your entire conveying system. Since each product is unique in its own way, Vital Force Engineering designs & customizes special powder conveying spring hopper loader to suit your particular need. The hopper loader are used for conveying powder to main hopper of Extruder with length of 6 to 12 meter. Our hopper loader are used by top name in the industry who prefer nothing but the best
- Machine of clear construction with easy access for operation and maintenance.
- Material Flow through Flexible HDPE Pipe and Spring made from Special Spring Steel Material
- Our All Spring Hopper Loader is equipped with Vibrating Fork in place of Rubber Diaphragm / Proximity. This Vibrating fork is maintenance free and proven the best as level switch for all Material application.
- Vibrating Screen with Vibrator Motor is on the top of Main Inlet Hopper. Also DOL starter of BCH make is provided for Vibratory Motor.
- All Electrical parts are of standard make like BCH, L&T, Schneider electric.
- Timer to adjust delay time for material flow.
- Manual or automatic operation option. Various sizes like 13/10/8/6 meter are available as per customer requirement.
- All the paint is Powder coated for better life of Unit.
- Operating Manual for Hopper Loader, Electrical Circuit Diagram, and Operating Manual for Vibrating Fork is standard supply with Hopper Loader



Hopper Loader				
Model	Conveying tube in mm	Minimum radius in mm	Motor	Maximum output (dependent on material and bulk density)
VSC30	40	1500	0.37-1.1 KW	0.3m <sup>3</sup> /h
VSC40	50	1500	1.1-1.5 KW	0.6m <sup>3</sup> /h
VSC50	63	1800	1.5-2.2 KW	2.5m <sup>3</sup> /h
VSC70	75	2300	2.2-3.7 KW	5.0m <sup>3</sup> /h
VSC80	90	2500	3.7-5.5 KW	8.0m <sup>3</sup> /h
VSC100	110	3500	5.5-7.5 KW	15m <sup>3</sup> /h



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**Mfg. All type of Pipe Profile &  
Corrugated Extrusion Machinery & Parts**

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