

Pipe Coil Technology Limited

Off-line Automatic Coiling Technology





What is 'Off-line Coiling'?

Off-line coiling separates the production of finished coils from the extrusion process enabling the efficiency of the extrusion and of the coiling processes to be independently maximised.

- At the extrusion process the pipe, tube, hose or conduit is wound onto master reels with each reel holding typically 4 to 48 hours of continuous production.
- The production of finished coils is performed 'off-line' by transferring product from the master reels to finished coil lengths at high speed using a fully integrated automatic coiling system.

When should off-line coiling be considered?

Off-line coiling should be considered when two or more extrusion lines, producing similar sized products, are operated in the same factory. Off-line coiling should also be considered when on-line production of finished coil lengths constrains the speed at which a product can be extruded.

Applications

Off-line coiling can be applied to many plastic pipe, tube, hose and conduit types, for example;

- PEX, PB, PERT and composite plumbing pipe
- HDPE pressure pipe and HDPE/MDPE duct
- Irrigation and drip irrigation tube
- Electrical conduit
- Garden hose
- Industrial hose
- Pneumatic tube
- Automotive tube



Product sizes suitable for off-line coiling will usually not be in excess of 75mm in diameter, due to practical limitations on master reel size.

Benefits of off-line coiling

Extrusion process can be optimised;

- Higher extrusion speeds
- Less downtime
- Lower scrap rates

Coiling and packaging process can be optimised;

- Higher coil production rates
- Lower labour cost per coil
- Coiling can be performed close to, or within, warehouse location, it does not need to be on same site as extrusion

Lower capital investment in equipment AND lower operating costs

Improved operating flexibility;

- Coiling can be performed when convenient, it does not have to be done at the same time as running extrusion
- Coil size changes can be made more frequently and easily without affecting extrusion efficiency
- Inventory of finished coils can be reduced by adopting a more 'cut to order' production method

Increase extrusion speed by up to 100%

Reduce labour cost by up to 75%

Coil output rates

coil length {m}	coils per hour	equivalent line speed {m/min}	coil length {ft}	coils per hour	equivalent line speed {ft/min}
25	112	47	100	109	182
50	92	77	200	85	285
100	67	111	300	70	350
200	43	143	500	51	430
300	31	158	750	39	487
400	25	167	1000	31	520

Rates based upon rewind system with single head coiler applying stretch film packaging and transfer speed set at 200m/min (650ft/min)



An off-line coiling system comprises;

One take-up stand for each extrusion line



A quantity of reels and method of moving reels



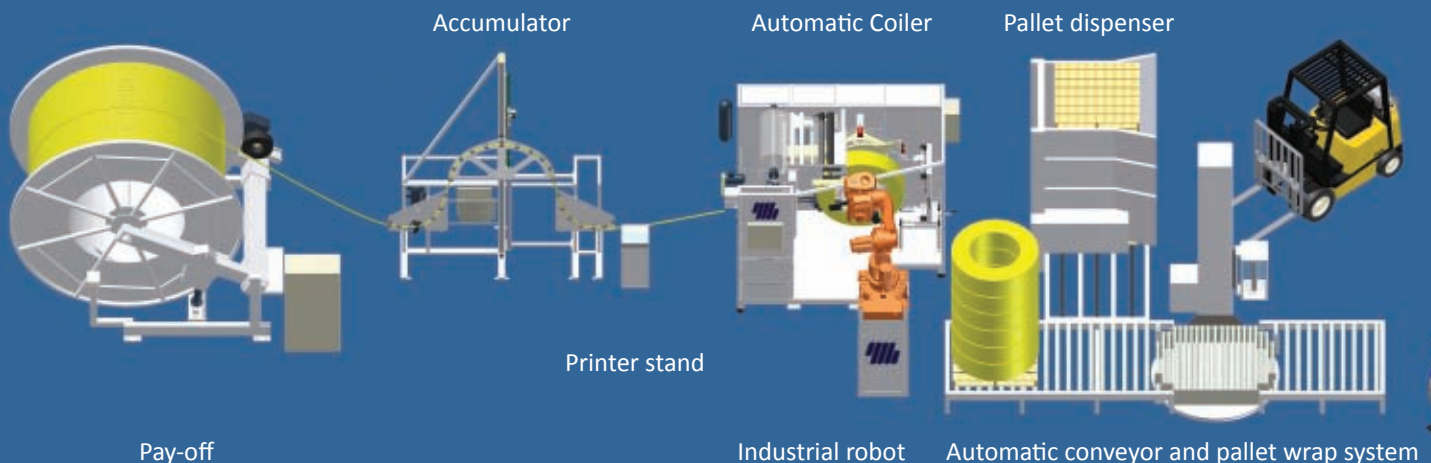
An integrated high speed recoiling system comprising;

- Payoff stand
- Tension control stand
- Automatic coiler (single or twin head configuration with film, strap or tape packaging)
- Printer to apply print line to product as it is recoiled (optional)
- Label printer and applicator to label each coil (optional)
- Robot to transfer coils from coiler set down point onto pallet (optional)
- Automated pallet dispensing and pallet wrapping equipment (optional)
- Conveyor system to transfer coils, or full pallets, to storage area (optional)



We provide complete off-line coiling system packages tailored to meet the production requirements of each customer. We are pleased to advise on the suitability of off-line coiling for specific applications and to recommend optimum equipment solutions.

**Transform the profitability of your business
with an offline coiling system from Pipe Coil Technology Limited**



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Examples of Systems Supplied			
Industry	Plumbing	Plumbing	Utilities (gas & water)
Material	PB	PEX	HDPE
Master reel size			
- flange diameter	5.2m	4.6m	3.35m
- core diameter	3.0m	3.0m	1.5m
- width	2.0m	2.0m	1.8m
Master reel capacity	150,000m of 12mm	110,000m of 12mm	37,000m of 16mm
	55,000m of 20mm	40,000m of 20mm	15,000m of 25mm
	29,000m of 28mm	20,000m of 28mm	10,000m of 32mm
Number of extrusion lines	8	5	10
Number of recoiling lines	3	2	3
Spare capacity of recoiling lines	15%	20%	20%
Payback period (compared to semiauto online)	18 months	16 months	12 months

Why industry leaders choose Pipe Coil Technology Limited

- We are committed to achieving the highest level of customer satisfaction and to building long term, mutually beneficial, partnerships with our customers
- We are experts at what we do; understanding customer needs, supplying technically superior solutions on time and in budget and providing excellent after sales support throughout product lifetime.
- Our project management, engineering and technical sales teams include specialists from the extrusion, oil & gas and automation industries who between them have many years experience in creating, delivering and implementing complex equipment solutions.

Products

For plastic pipe, tube, hose & conduit manufacture:

- Automatic coiling & packaging technology
- Semiautomatic coiling technology
- Off-line, high speed coiling technology
- Low ovality coiling technology (for HDPE pipe)
- Drum winding technology
- Engineered coiling solutions

For wire rope and large diameter cable manufacture:

- Drum take-up and payoff stands
- Turntables and spoolers
- Wire spooling and rewinding

For sub-sea umbilical, flow-line and cable manufacture:

- Carousels and loading systems
- Drum handling, moving and spooling equipment
- Production machinery; S-Z lay machines, rotating taping heads, caterpillar haul-offs, drum take-up & payoff stands
- Wire spooling and rewinding

For sub-sea umbilical, flow-line and cable installation:

- Carousels and loading systems
- Drum handling and spooling equipment
- Cable guides and transfer equipment

Pipe Coil Technology Limited

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