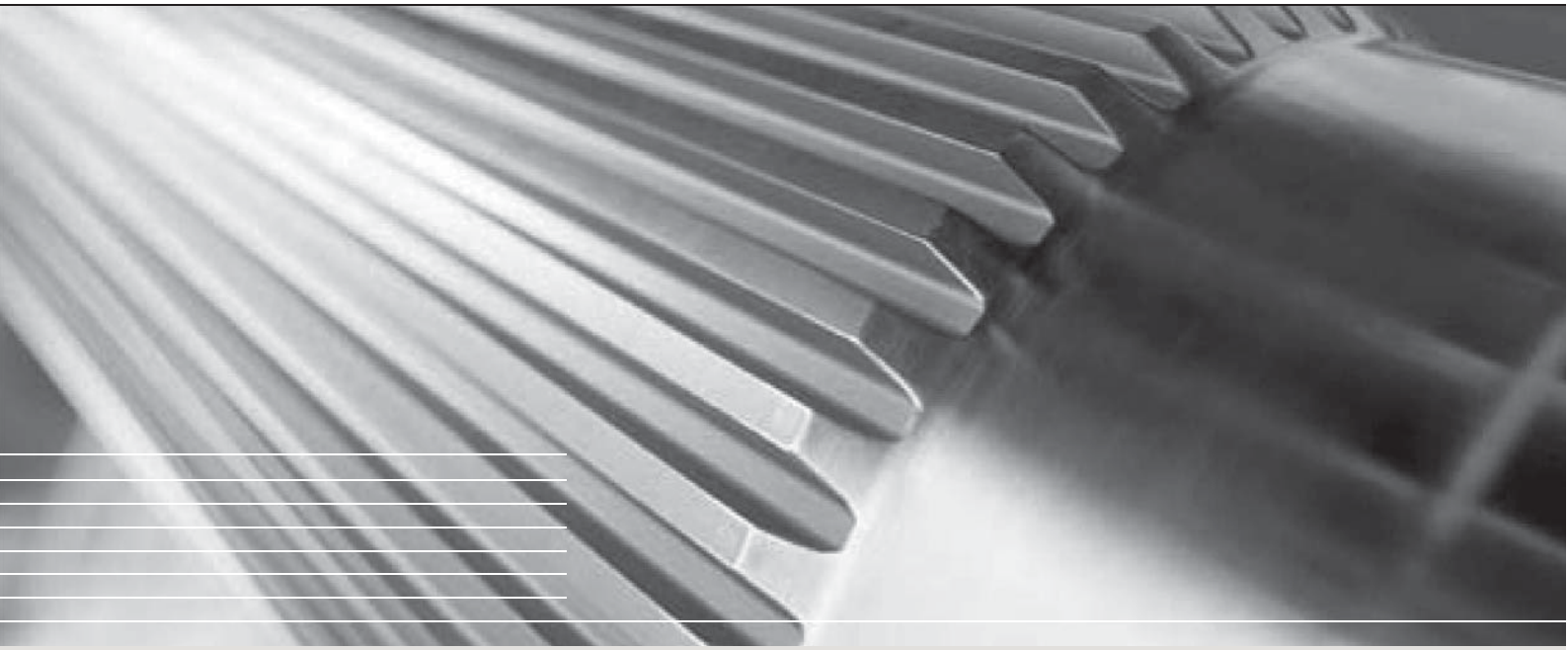
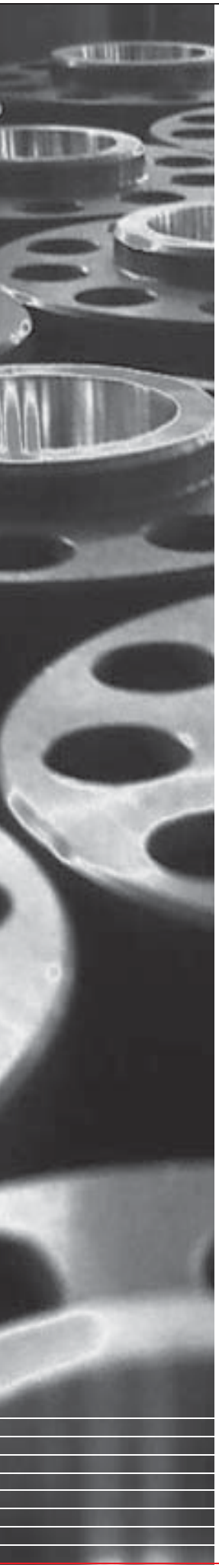
APPLICATION | MACHINERY | TECHNICAL DATA



SPECIALIST IN SCREW BARREL & EXTRUDER MACHINERY



With our versatile & extensive market experience of our products, it has proven to provide huge satisfaction & benefits to our customers. Specializing in Screw Barrels & Extruder Machinery, we thoroughly ensure that our components are of an excellent quality & standards in terms of technology requirements & pricing; seeing that the unique & specific requisite of manufacturers are of our top priority.

SCREWS (in all variants)

One of our major advantage is that we are able to customize precisely the variety of screws - from the base materials to finish. Practically, there are no restraints to the requirements concerning materials, geometries & coatings that we can manipulate, thus enabling us to tailor & deliver state-of-the-art screws.

Abbreviation	Material Group	Tensile Strenght (RT)	Heat Treatment	Hardness
38 CrMoAlA	Nitriding Steel	850 - 1200 N/mm square	Nitriding	700 - 900 HV5
34 CrAlNi7	Nitriding Steel	800 - 1000 N/mm square	Nitriding	900 - 1100 HV5
X35 CrMo17	Stainless Steel	750 - 950 N/mm square	Through Hardening	50 - 54 HRC
NiMo16Cr15W	Nickel	700 N/mm square	-	Soft
X155CrVMo121	Tool Steel	-	Through Hardening	59 - 63 HRC

Flight Hardfacings

Base Alloy	Alloy Components	Hardness (HRC)	Wear Resistance	Corrossion Resistance
Cobalt Base	C, Cr, W	52 - 57	■■■	■■■
Cobalt Base	C, Cr, W	38 - 42	■	■■■
Cobalt Base	C, Cr, W	44 - 48	■■	■■■
Nickel Base	C, Si, Cr, B, Fe	52 - 56	■■■	■■■
Iron Base	Cr, V	51 - 58	■■■■	■■
Nickel Base	Tungsten Carbide	56 - 60	■■■■■	■■■■

* Note: Suitability ■ Low Suitability ■■■■■ Highly Suitable

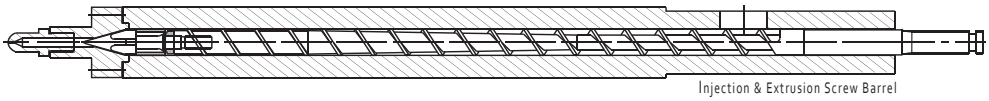
Screw Coatings

Coating Types	Coating Thickness	Coating Hardness	Wear Resistance	Corrossion Resistance
Hard Chrome Plating	0.020 - 0.035 mm	800 - 1100 HV 0.1	■■■■	■■
Chemical Nickel Painting	0.015 - 0.025 mm	500 - 600 HV 0.1	■■	■■■■■
PVD, Tin	0.004 mm	2500 HV 0.05	■■■	■■
PVD, CrN	0.004 mm	2100 HV 0.05	■■■	■■■
PVD, CrN Multi-Layer	0.008 mm	2100 HV 0.05	■■■■	■■■■

* Note: Suitability ■ Low Suitability ■■■■■ Highly Suitable

BARRELS

Quality in bi-metal



Injection & Extrusion Screw Barrel

With our unique expertise, we are also optimally suited to fabricating & manufacturing of complex barrels even at large scale, ranging from high wear-resistance Bi-metallic barrels & as well as a comprehensive range of Nitriding Steel barrels either in single or twin barrels or both.

Base materials for Barrels

Designation	Material Group	Yield Point at 300°C	Application
TP25	Heat Treated Steel	Min 250 N/mm square	Extrusion/ Twin Barrel
TP37	Heat Treated Steel	Min 370 N/mm square	Extrusion
TP13	Stainless Steel	Min 130 N/mm square	Extrusion
TP63	Heat Treated Steel	580 - 630 N/mm square	Injection

Bi-metallic Alloy

Base	Alloy Components	Hardness (HRC)	Wear Resistance	Corrossion Resistance
Fe Base	Ni, C, B	58 - 65	■■	■
Fe - Cr Base	Ni, Mo, Cu, C, B	62 - 69	■■■	■■
Ni-Co Base	Cr, Mo, B	48 - 56	■	■■■■■
Ni Base	Cr, Si, B, WC	58 - 66	■■■■■	■■■■

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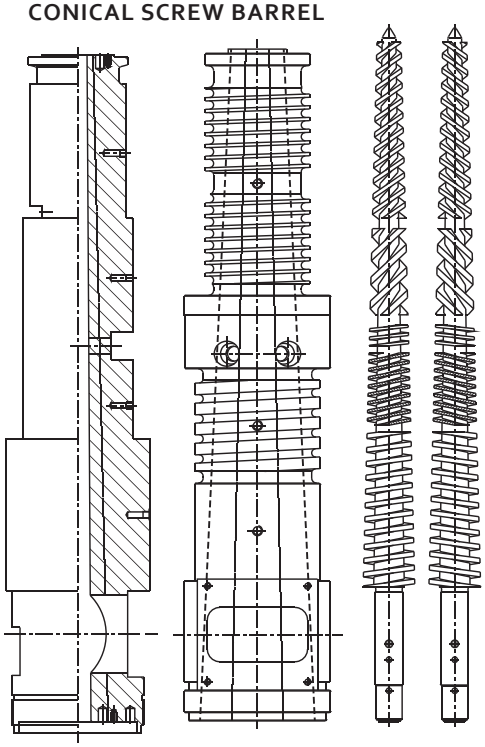
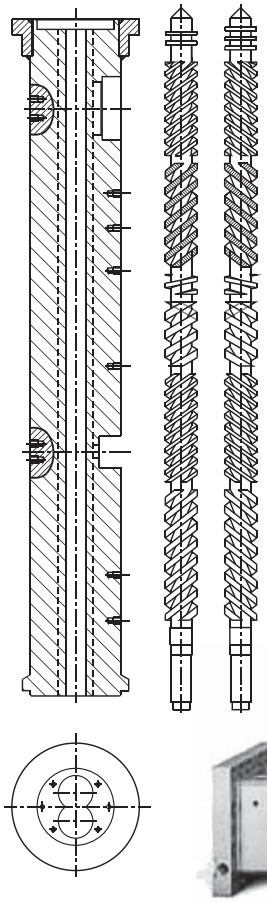
CONICAL SCREW BARREL



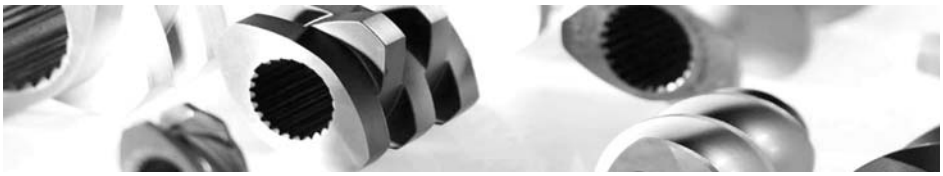
PARALLEL SCREW BARREL



SCREW ELEMENTS

Screw profiles can be easily adjusted to fit specific requirements of a given process or task. For this, screw segments (also known as screw elements) are mounted onto a common shaft where each are individually configured to assure that the process sections meet the process need. Hence, different process zones can be setup correspondently in accordance to the requirements for : conveying, compression, reverse-conveying, barrier & kneading.

Material	Hardness
Nitrided Steel	900 - 1050 Hv, 0.5
Hardened Stainless Steel	45 - 52 HRc
Tool Steel	57 - 61 HRc
Nitrided Stainless Steel	900 - 1050 Hv, 0.5
PM-HIP	64 - 66 HRc
Stainless Hardfaced Tips	40 - 44 HRc



BARRELS & LINERS

Barrel arrangement of a twin screw extruder can also be accustomed to meet the requirements and conditions of a specific process. Barrel types constitude of feed, side feed, degassing & combi barrels; allow materials to be added simultaneously to the processing section or gas or moisture removal, when suitable configuration are applied. It is also typical that barrels are equipped with bored (liquid) heat transfer channels.

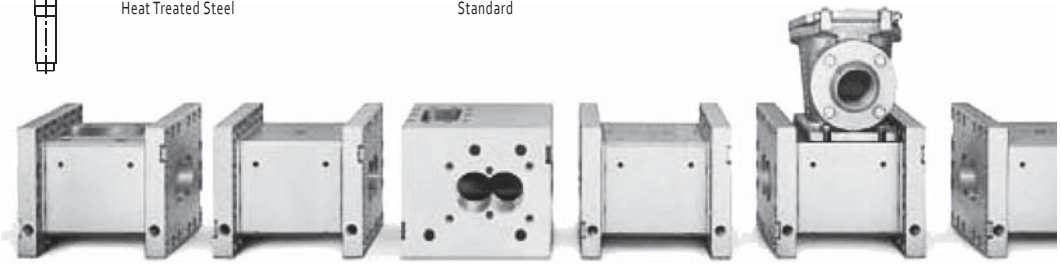
As barrels are of a substantially valuable & critical part of a twin-screw extruder's configuration, it is in many cases equipped with a replaceable liner. Once pre-defined wear tolerances have been exceeded, only the liner shall be reinstated; hence allowing the Outer Barrel to be re-used considering that the cooling system is not deprivated by irreversible encrustation or corrosion.

Type	Material	Hardness
Solid	Nitrided Steel	750 - 850 Hv 1
Liner	PM-HIP	59 - 62 HRc
Liner	PM-HIP	61 - 64 HRc
Liner	PM-HIP	45 - 52 HRc
Liner	Tool Steel	54 - 58 HRc

SHAFTS

Shafts also play an essential & influential role in transferring the torque of the drive to the screw segments and hence to the process. Due to its geometric constraints, options for shaft design are fairly inadequate & limited. High torque on the other hand, is extremely crucial to ensure not only the economical side of the production, but as well as the characteristics, attributes and quality of the end product. Therefore, shafts are committed to deliver maximum mechanical performance.

Type	Application
Hot Forming Steel	Maximum Torque
Hardened Stainless Steel	Stainless
Heat Treated Steel	Standard

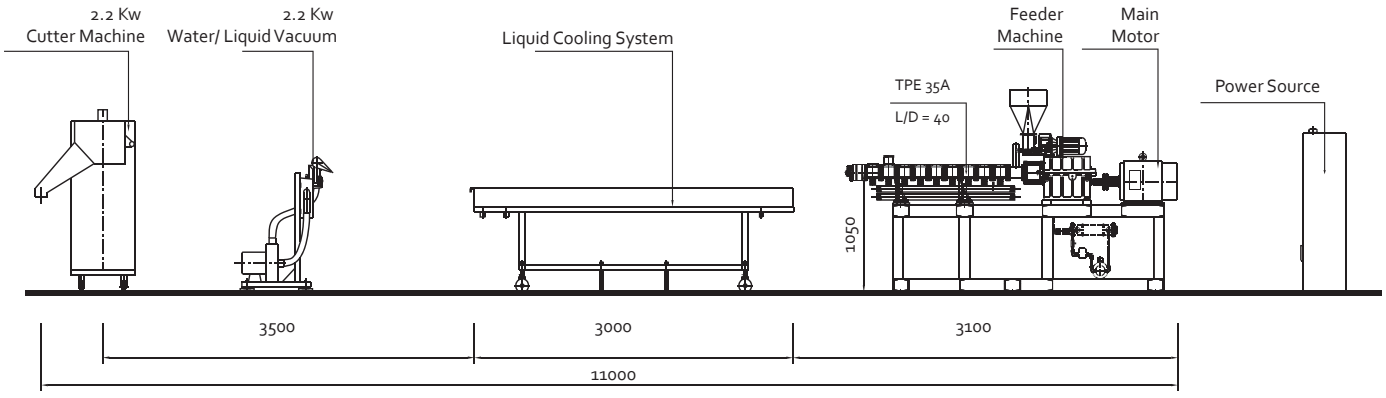


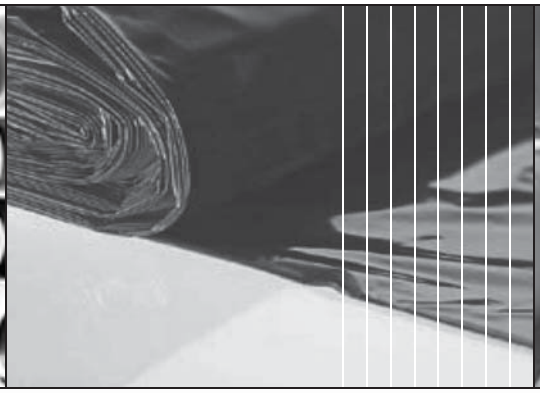
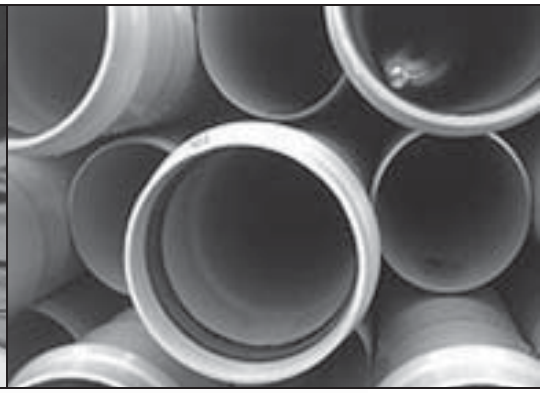
TECHNICAL DATA OF TWIN SCREW EXTRUDER

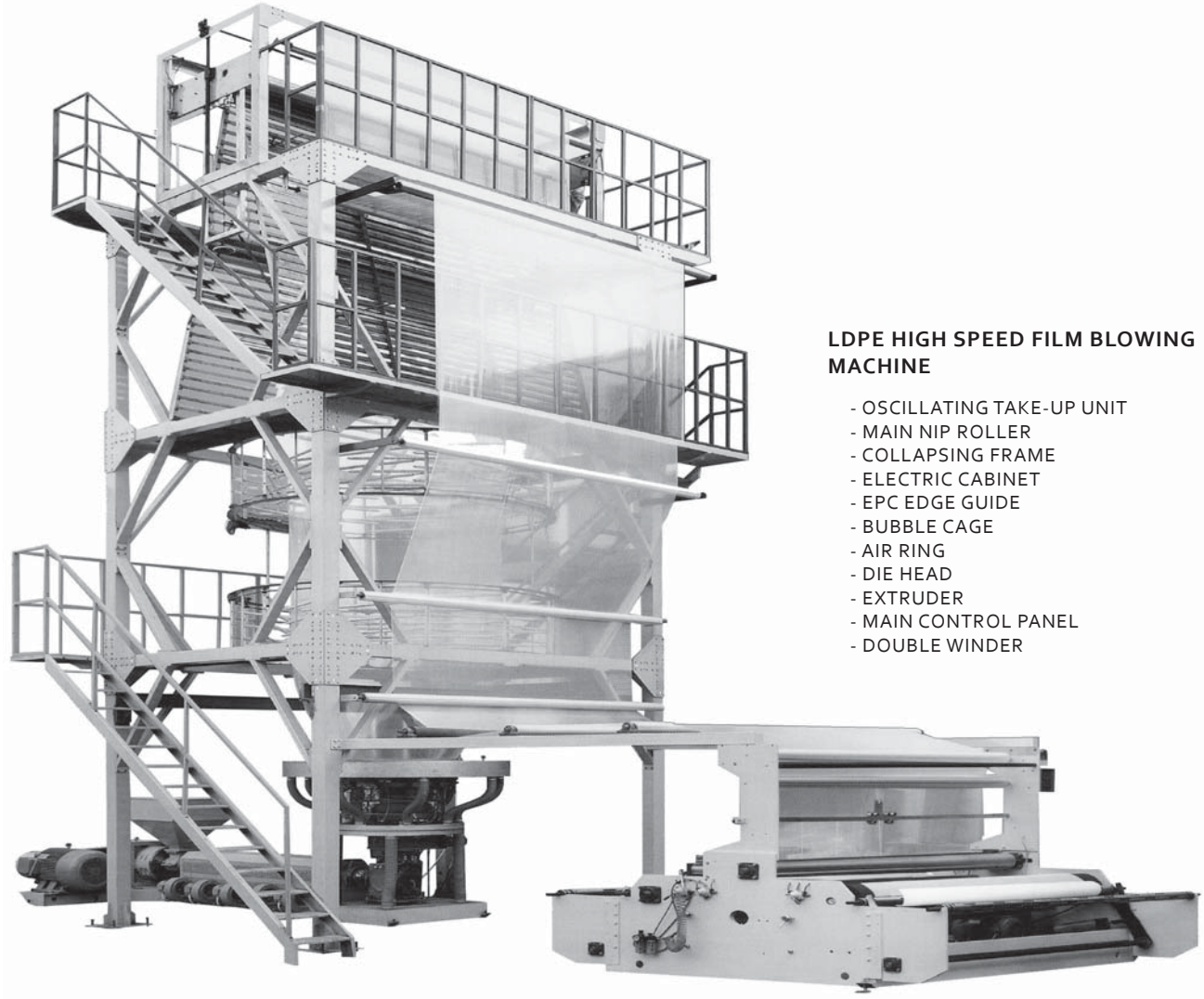
Model	Screw Dia. (MM)	L/D Screw	R/Min	Motor KW	N.M	Torque	KG/H
TPE-20	22	32 - 64	600	4	30	4.8	0.5 - 15
TPE-25	25	32 - 64	600	5.5	44	4.8	15 - 20
			600	7.5	60	6.5	15 - 20
			600	11	88	9.5	20 - 30
TPE-30A	30	32 - 64	400	7.5	80	4.5	5 - 30
			600	11	85	4.7	5 - 40
TPE-35A	35.6	32 - 64	400	11	125	4.6	30 - 55
			600	15	115	4.2	45 - 75
TPE-40A	41	32 - 64	400	22	250	6.0	65 - 110
TPE-40B	41	32 - 64	600	30	225	5.5	90 - 150
			800	45	255	6.2	135 - 225
			1000	55	250	6.0	165 - 275
TPE-50A	50.5	32 - 64	500	45	405	5.1	135 - 225
TPE-50B	50.5	32 - 64	600	55	415	5.2	165 - 275
			800	75	425	5.3	225 - 375
			1000	90	405	5.1	270 - 450
TPE-65A	62.4	32 - 64	400	55	620	4.4	165 - 275
			500	75	675	4.8	225 - 375
TPE-65B	62.4	32 - 64	600	90	675	4.8	225 - 375
			800	110	620	4.4	330 - 550
			1000	132	595	4.2	396 - 660
TPE-75A	71	32 - 64	400	90	1015	4.7	225 - 375
			500	110	1005	4.6	330 - 550
			500	132	1190	5.5	396 - 660
TPE-75B	71	32 - 64	600	132	990	4.6	396 - 660
			800	160	900	4.2	480 - 800
TPE-95A	93	32 - 64	400	250	2815	5.9	750 - 1250
			500	250	2250	4.7	750 - 1250
TPE-95B	93	32 - 64	600	315	2365	5.0	945 - 1575
			800	400	2250	4.7	1200 - 2000
TPE-135A	133	32 - 48	400	550	6190	4.6	1650 - 2750
			500	750	6750	5.1	2250 - 3750

- Data provided from the above schedule varies with the technical improvement of the products & may be adjusted in accordance to Clients' requirements & specifications
- Output values may also be adjusted along with the variation of the customization

COMPOUND EXTRUDER



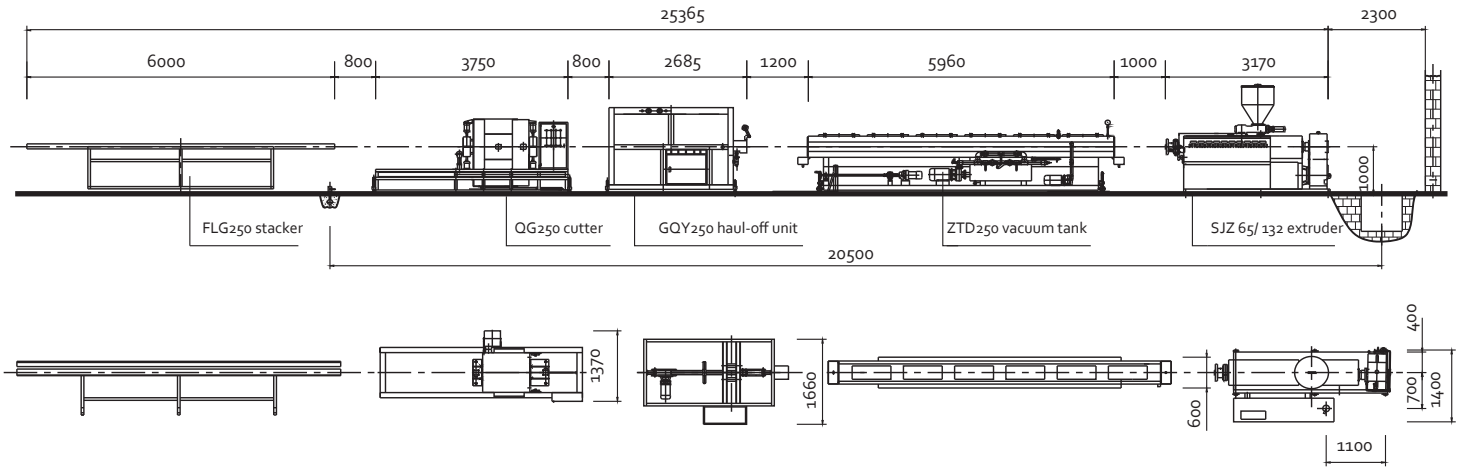






LDPE HIGH SPEED FILM BLOWING MACHINE

- OSCILLATING TAKE-UP UNIT
- MAIN NIP ROLLER
- COLLAPSING FRAME
- ELECTRIC CABINET
- EPC EDGE GUIDE
- BUBBLE CAGE
- AIR RING
- DIE HEAD
- EXTRUDER
- MAIN CONTROL PANEL
- DOUBLE WINDER

PIPE EXTRUDER



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