

MIRCO DYNAMICS PVT. LTD.

Regd. Office : T-178, MIDC, Bhosari, Pune - 411 026. INDIA

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ARVIND MILLS LTD.

Santej, Ahmedabad



07.08.2001

KIND ATTENTION: Shri S.A.Saraiya, Chief Manager-Engineering

Dear Sirs,

SUBJECT : Your Requirement of 13 TPH Boiler.

This has reference to your inquiry on the above subject. We thank you for your interest in our company and products.

As you are aware, **AN ISO 9001 BOILER COMPANY**; we are a very fast growing medium Sized Thermal Engineering Company engaged in **DESIGNING, MARKETING and MANUFACTURING** Thermal Engineering Equipment required for Process Industry; mainly Process Heat and Power Boilers. We also have a Division dealing with **ENVIRONMENTAL PROTECTION EQUIPMENT** like Fans, Multi-cyclone Dust Collectors and Bag Filters etc. We are specially equipped to cater to the need of Small Capacity Co-generation and even Basic Electricity Generation at reasonable Terms. We are gearing-up to come-out with our own facilities to **DESIGN and MANUFACTURE** Steam Turbine and High Pressure Multi-stage Pumps Steam & Electric Driven, required for Power Generation and Co-generation.

We have a team of Qualified and Trained Engineers for Designing, Manufacturing, Erection / Commissioning and After-sales. Also we have highly skilled Work Force using TIG (Tungston Inert Gas) / MIG-CO2 / SAW (Submerged Arc) Welding besides X-ray quality manual welding, Automatic Hydraulic Tube Bending, 400 T Pressing, General Machining etc.

We are offering to you :

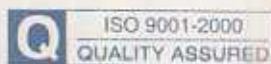
= 13 TPH , Three Pass , Fully Wet Back , Smoke Tube, Furnace Oil /Gas Fired Boiler (SP Model)

We shall especially request you to kindly go through the Scope of Supply that we commit as normal supply and also the Quality Input that we use in our Product. You may kindly and **ESPECIALLY** note that :

We do Design and Manufacture, **ELECTRIC CONTROL PANELS** for our Products, In-house from Genuine Material procured directly from the Manufacturer hence doing away with quality problem and also problem of Spurious Material which is associated with the same procured from Vendor

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Works : Unit - II : T-181-1/A, MIDC, Bhosari, Pune - 411 026. INDIA



Subject to Pune Jurisdiction

ISO 9001-2000 : BOILERS / HEATERS, VALVES, PUMPS, FANS, STEEL FOUNDRY
TURBINES, CO-GENERATION, MDCs / BAG FILTERS



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We use In-house Designed, Manufactured and Tested (to IS Specification) Fans optimal performance. Also we offer In-house Designed and Manufactured MULTICYCLONE DUST COLLECTOR which is also a Standard Product our ENVIRO DIVISION offers.

We EXCLUSIVELY use TATA TUBES and either Imported or SAIL Plates to manufacture IBR Pressure Parts.

We use Crompton / Kirloskar Motors, L & T / Snieder Switch Gears (assembled in-house), Darling Muesco Safety Valves, Castings from Captive Vendors etc.

The above ensures Higher Quality of the Product keeping within Competitive Pricing Structure. We take this opportunity to kindly make it convenient to visit our Well Equipped and Modern Works to see our Engineering and Manufacturing Expertise.

We are sure you shall find our offer MOST COMPETITIVE in all respect therefore We are now looking forward to hearing from you at an early date and in the meanwhile;

Thanking you.

Yours sincerely
For MIRCO DYNAMICS PVT LTD


Authorised Signatory

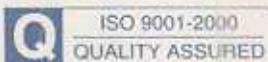
Enclosed : Techno-commercial Offers for :
SP Model.
Terms and Condition for Sale.

CC TO : Mr. Sunil Bhavsar, Ahmedabad

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TECHNICAL DETAILS-SP-100

GENERAL :

BOILER MAKE	MIRCO DYNAMICS Pvt. Ltd.
BOILER TYPE	Horizontal, Multi-tubular, 3 pass Fully wet back, Furnace Oil Fired, Shell & Tube type Boiler with Integral Furnace.
MODEL	SP-130
STEAMING CAPACITY (f & a 100°C)	13,000 Kg/hr
MAX. WORKING PRESSURE	14.5 Kg/Cm ² (G)
STEAM QUALITY	Dry, Saturated
DRYNESS FRACTION OF STEAM	0.98
FUEL	Furnace Oil / LDO AND GAS
FIRING	Automatic
DESIGN CODE	IBR 1950 with Latest Amendments
THERMAL EFFICIENCY	88% ± 2%

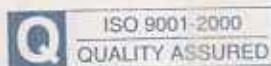
MAKE OF BOUGHT-OUT ITEMS :

Tubes	TATA
Plates	Imported / S.A.I.L.
Motors for pumps, Fans & others	Crompton Greaves / GE ALSTHOM
Pressure Gauge	Fiebeg / H. Guru / Equi.
Pressure Switch	Indfoss/Orion
Valves	Neta / Equi.
Safety Valves	Darling Muesco / Mirco
Water Level Controller	In-house with silver contacts switches
Feed Pumps	In-house with 18 months written Guarantee
Switch Gears	Crompton / Schneider
Electricals	L & T / Crompton / ABB

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TECHNICAL :

HEATING SURFACE AREA

Shell & Tube Heat Exchanger	350 Sq. Mtrs.
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FEED WATER PUMPS

Type	Centrifugal, Multistage, Horizontal
Nos.	Two
Capacity (M ³ / Hr.)	15
RPM	2900
Motor (H.P.)	30

RECOMMENDED FEED WATER QUALITY :

Total Hardness as CaCO ₃ ppm	< 5 [Commercial Zero]
PH Value	8.5 - 9.5
Oil / Organic Matter	Not Detectable
Oxygen	0.05 mg / Liters

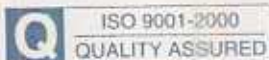
RECOMMENDED BOILER WATER QUALITY :

Total Hardness as CaCO ₃ ppm	Not Detectable
Sodium Phosphate Na ₃ PO ₄ mg/l	50 - 100
Caustic Alkalinity as CaCO ₃ mg/l	Min : 350
Silica as SiO ₂	<0.4 % of Caustic Alkalinity
Total Alkalinity as CaCO ₃ mg/l	Min : 1200
Sodium Sulphide as Na ₂ SO ₃ mg/l or Hydrazine (N ₂ H ₄) mg/l	30 - 70 0.1 - 1
Total Dissolved Solids mg/l	Max : 3500
Suspended Solids mg/l	Max : 50

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SCOPE OF SUPPLY

PRESSURE PARTS :

- 1 No. Shell & Tube Type Heat Exchanger
- 1 Set Feed Water Piping

NON-PRESSURE PARTS :

- Smoke Chambers
- Saddles for shell boiler

ACCESSORIES & OTHERS

- 2 Nos. Feed Water Pumps with Motors
- 1 No. fully Automatic Burner Assembly
- 1 No. Control Panel (Free Standing, Dust Proof) with Control Wiring

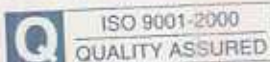
MOUNTINGS AND FITTINGS :

Type	Size
• 1 No. Main Steam Stop Valve	: 200NB
• 1 No. Auxiliary Steam Stop Valve	: 50NB
• 2 Nos. Safety Valves	: 50NB
• 2 Nos. Non return valves in feed water line	: 40NB
• 2 Nos. Stop valves in feed water line	: 40NB
• 1 No. Feed Check valve in feed water line	: 40NB
• 1 No. Blow-down Valve	: 50NB
• 1 No. Dial type Steam Pressure Gauge	: 150
• 1 No. Feed water pressure gauge	: 100 mm
• 2 Nos. Water Level Gauge Sets with Protectors	: 20/25
• 1 No. Magnetic Float type On/Off Water level Controller	: 20
• 2 Nos. Isolation Cocks for Pressure Gauge	: 20
• 2 Nos. Mobrey Isolation Valves on Boiler	: 20
• 1 Set Syphon Tube with Threaded Flange	:

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INSTRUMENTS, CONTROLS AND SAFETIES:

- Automatic Water Level Controller for Pump On/Off
- Pressure Gauges for steam and water pressure
- Temperature Indicators for flue gases
- Fusible Plug
- Alarm for Abnormal Operating conditions
- Burner Step less Modulation (& Sequence Controller)
Proportionate Modulation with Pressure Troll

SAFETIES:

- Flame Failure
- Post Purge
- Cut-Off
 - for Oil Temp Low
 - for Oil Pressure Low
- Water Level Low
 - Alarm
 - Cut-Off
- Higher Pressure
 - Cut-Off

EXCLUSIONS:

- Chimney, Flue Gas Ducting
 - Civil Works and foundation
 - Power wiring up-to terminal points of Motors
 - Water Softening Plant (can be offered additionally)
 - Feed Water Storage Tank & Piping up-to Pumps
 - Statuary Approval including Site IBR (We shall issue IBR Folder complete in all respects)
 - Anything not specifically mentioned above
- Total Estimated Cost of Exclusions: @ Rs. 5300000.00

WARRANTY:

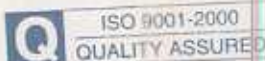
All the manufactured items shall be warranted for a period of 12 months from the date of dispatch against any manufacturing defect either due to material and/or Workmanship. Our liability under this warranty shall be limited to repairing / replacing the defective component.

All the warranties on the bought-out items e.g. Motors, Pumps etc. given to us by the manufacturer shall be extended to you.

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COMMERCIAL TERMS

PRICE SCHEDULE

- EX FACTORY PRICE FOR GIVEN SCOPE OF SUPPLY BUT EXCLUDING BURNER ASSEMBLY :

➤ **MODEL** : SP-130
➤ **EX-FACTORY PRICE** : Rs. 42,00,000/-
Rs Forty Two Lacs Only

BURNER ASSEMBLY AT EXTRA PRICE :

= Pressure Jet , Steam Cum Electric Heating Type , Modulation type with filters and other controls :

➤ **EX-FACTORY PRICE** : Rs. 11,50,000/-
Rs. Eleven Lacs Fifty Thousand Only

BURNER ASSEMBLY AT EXTRA PRICE :

= Gas Burner , Modulation type with filters and other controls :

➤ **EX-FACTORY PRICE** : Rs. 13,50,000/-
Rs. Thirteen Lacs Fifty Thousand Only

CST & EXCISE DUTY

: Extra as applicable at time of dispatch

PACKAGING & FORWARDING

: 2.5% of Basic Price

TRANSPORTATION

: In your Scope

ERECTION & COMMISSIONING

: Inclusive

TERMS OF PAYMENT

: 35% as Advance with your technically and Commercially clear Purchase Order.

: Balance with 100% Taxes against Proforma Invoice after final inspection of the Boiler at our works.

DELIVERY

: 12 - 14 Weeks from receipt of your Purchase Order with advance.

VALIDITY

: 30 Days

NOTE: The STANDARD TERMS AND CONDITIONS FOR SALE are enclosed with this offer and form a part of the same. All purchase orders are to be placed on us and shall be based on the offer shall essentially be subject to the contents therein.

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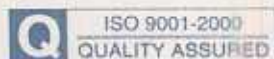
STEAM COSTING

Estimated Steam Cost				
PARAMETER	UNIT	N.GAS	FO	
MODEL		IBR-AUTO	IBR-Auto.	
		At 70deg. Watertemp. And 14.5 kgs/cm2press.		
CAPACITY	KGS/HR.	13000	13000	
NET CALORIFIC VALUE	KCAL/S/KG	9500	9900	
EFFICIENCY	%	90	88	
SHUT DOWN DAYS PA	NOS	10	15	
FUEL CONSUMPTION	KGS/HR.or M³/hr.	903.9	887.1	
FUEL RATE	RS/SCM or RS./KG	5.7	9.81	
A FUEL COST	RS./HR.	5152.3	8702.5	
ELECTRICAL LOAD	KW/HR.	52.5	115	
ELECTRICITY RATE	RS./KWH	4.32	4.32	
B POWER COST	RS./HR.	226.8	496.8	
MAN POWER				
NO. OF ATTEDENT	NOS.	4	4	
NO. OF HELPER	NOS.	4	4	
SALARYOF ATTEDENT PER MONTH	RS.	9000	9000	
SALARYOF HELPER PER MONTH	RS.	2400	2400	
TOTAL SALARY PM	RS.	45600	45600	
C SALARY RS. PER HOUR	RS.	63.3	63.3	
GO DYNAMICS PVT LTD				

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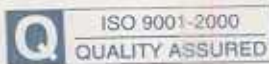


	Maintenance Cost (Including Spares)			
	Maintenance Cost PA (Including Spares)	RS.	70000	116000
D	Maintenance Cost per hour (Including Spares)	RS.	8.22	13.81
	ANNUAL INSPECTION EXPENSES	RS.	20000	25000
E	INSPECTION EXPENSES RS PER HOUR	RS.	2.35	2.98
	INTEREST ON INVESTMENT			
	INVESTMENT	RS	12000000	12000000
	RATE OF INTEREST	%	10	10
	INTEREST PER ANNUM	RS	1200000	1200000
F	INTEREST PER HOUR	RS	140.85	142.86
	TOTAL STEAM COST PER HOUR = A+B+C+D+E+F	RS.	5593.88	9422.32
	STEAM COST PER KG	RS	0.430	0.725

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