

L13020

Steel Profile (Tapered Pole) Line)

Steel Profile(Tapered Pole) Equipment

1. Introduction



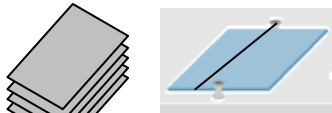
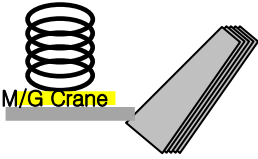

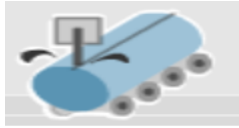

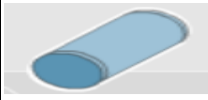
1. 1-1. Brand : France(CMF) , Korean and Chinese manufacturer
2. 1-2. Operation : 2006 ~ 2012
3. 1-3. Product Capa. : Profile 5,000 ton/year / Round pipes 10,000 ton/year
 - i. (Capacity : Profile 6.9pcs/Hr, Round 3.6pice/Hr)

2. Production Description

2-1. Size for Product

Pole or Pipe type		Conical Pole	Polygonal Pole	Round Pipe
Thickness	mm	2.6,3.7,5.2,7.5 10	2.6,3.7,5.2,7.5 10~20	20~38
O.D	mm	Φ190 ~ Φ463	Φ190 ~ Φ820	22"~ 32"
Length	M	2.45 ~ 16.0		6.2 ~ 12.8
Rake		About 0.43°		
Intensity	Mpa	T.S=510, Y.P=360		T.S=650, Y.P= 500

2-2. Process for product

2process	①rawmateris	②Entry part	③Shear M/C
photo		 사이드프리밍 Levelling & Crop Shear	 Center Shear
process	④Plate trans.	⑤Press forming	⑥Welding
photo	 M/G Crane		
process	⑦straightening	⑧packing/market	
photo			

2-3Tapered Pole Specification

O.D : max. $\Phi 463$

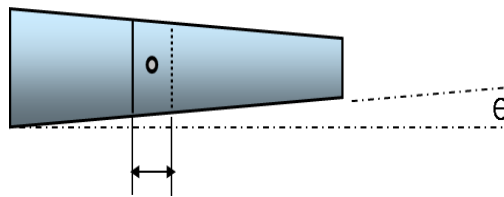
Top	Bottom
$\Phi 190$	$\Phi 463$

Length : 2,450 ~ 16,000mm

Material : STK500, SPA-H (Y.P min.:30 Kg/mm² , T.S min.:49 Kg/mm²)

Taper Angle : $\theta = 0.4$ 。

jointing 450mm Overlap (Bolting)



2-4 Round pipe

Specification

- Length 6,000 ~ 12,000mm
- Thickness 8 ~ 38mm
- O.D 16" ~ 32"

Add Equipment

- Edge Miller 1 set + manual machine 2set included
- Special tool for Round pipes - 16,18,20,22"
- inside welding, machine(Boom, Flux Recovery) + inside Turning Roll

Modify for Raw-material

- Plate -> Coil

3. Machine Description

3-1. Uncoiler

1) Description :uncoiler+leveller+pinch roll stand+crop shear

2) Major specification

Uncoiler

Coil width : 510mm ~ 2100mm

Type : double cone type with hold down roll frame

Driver motor :1-7.3hp

Pinch LevellerPinch

Pinch roll : 2roll type

Leveller : Top roll-2ea, Bottom roll-3roll

Driver motor : 100hp

Side Trimmer

Type : Independent shaft trimming type

Width : Slide bed type

Entry pinch roll stand
Scrap treatment : winding + Chopping type

Crop shear
Thickness : 9.5mm
Width : 2085mm
Material : Y.P - 42kg/mm²
Cutting speed : 40stroke/min
Driver motor : 60Hp

3.2SHEAR M/C - YSD (China)

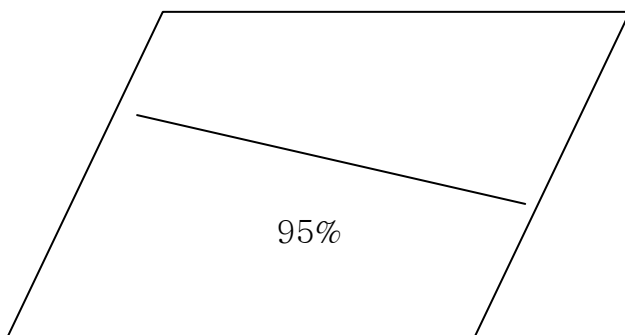
Capacity

- max. Cutting Length 16,000mm
- max. Cutting Thickness
 - : T.S <45kg/mm² 13mm
 - : T.S <65kg/mm² 10mm
- max. Cutting Force 720KN
- Rake Angle 0.5~2°
- Stroke of Blade 3~10/min
- Main Motor Power 37×2KW

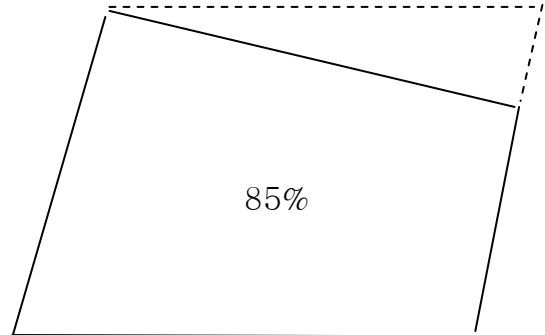


Shape for Shearing

Case1 : Available ass'y for width



Case2 : Not available ass'y for width



Main specification

The shear machine equips with auto-inlet/outlet system and plate-support system for the straight line cutting, which the working procedures include feeding, positioning, cutting, supporting and extracting.

3.3 PRESS BREAKER - YSD (China)

Specification

- max. Force
..... 2 x 2,400ton
- max. Bending Length
..... 2450 ~16,000mm
- max. Bending Width
..... 590 ~2,600mm
- max. Bending Thickness
..... 38mm
- Plate max weight max 9 M/Ton



Pole specification

- Taper Pole
 - : Thickness max 10mm
 - : Diameter Ø190 ~Ø 463mm
- Polygonal pole
 - : Thickness max 20mm
 - : Diameter Ø 820mm
- Round pipe
 - : Thickness 20 ~ 38mm -> 8 ~ 38mm
 - : Diameter 22" ~ 32" -> 16" ~ 32"

Major specification

- main frame : Ram + Guides+Hydrauliccylinder+Working table+
Table crowning system+Hydraulic servo system+ CNC control
- Ram – 2 x 2 synchronized cylinders
- Front/Rear Gauge : Servo Motor / Main Control : CNC + PLC
- Key components
 - Da-65W CNC system,Linkage block & Inductor - Delem (Holland)
 - Servo valve,Pressure valve, - BOSCH (Germany)
 - Pump - NACHI (Japan) ,Oil seals - MERKEL (Germany)
 - PLC & Servo Motor - Baumuller(Germany)

3.4 WELDING M/C– 2 line (OPTION)

Specification

- Brand : **CMF (France 2006) 1 line + SeAH (2007) 1 line**
- Weling : ESAB - DC 1250A / AC 1250A – 2 pole

Welding Machine main technical datas

- shaft length 16M max
- thickness 4mm ~ 20mm
- Taper Pole Ø 190 ~ Ø 820mm
- Polygonal section shaft 8 sides
- Welding speed 0.1 ~ 3.0 M/min / Repositioning speed 20M/min
- Wire size Ø 1.2 ~ Ø 2.4mm

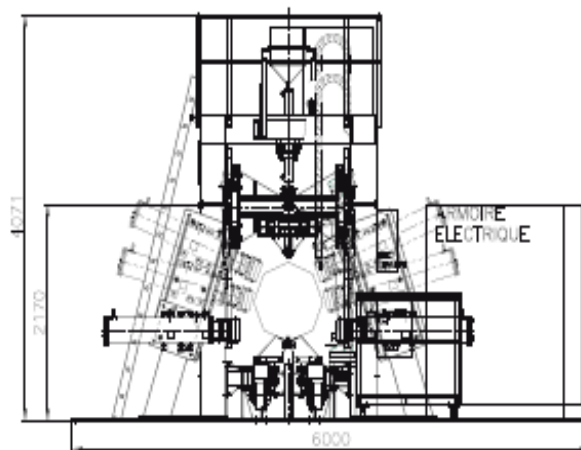
Equipment specification

- Loading system : Loading in carrageafter forming
- Carriage : Transfer unit welding
- Welding Station

- Welder : Taper Pole -> Outside welding- 2 Line
Round Pipe -> inside welding-1 Line
(able to assembly/disassembly for boom)
- > outside welder 1 Line
Taper pressing ->loading ->outside welding(CMS) line
Round pressing ->feeding ->in/outside welding(SeAH) line
- Unloading system
- PLC : Siemens S7
- Carriage : SEW ACvector
- Servo Valve :Rexroths

System for welding

- Lateral Cylinder : 2EA
- Head Cylinder : 1EA Head balancing system : by hydraulic cylinder
- Operating Panel
- Side Cylinder : 2EA(add)



Appendix-electric load list

Equipment	Part Name	Motor Power (Kw)	Q'ty	AC/DC	Kw
Shearing M/C	Main M/C Pump Motor	37	2	A	74
	Control Pump Motor	2	1	A	2
	Knife Gap control Motor	1.5	1	A	1.5
Shear Feeding	Front Gauge Servo Motor	3.2	3	SERVO	9.6
	Front Gauge Pump Motor	5.5	1	A	5.5
	Back Support Pump Motor	7.5	1	A	7.5
	Back Gauge Motor	4	1	A	4
Conveyor	Speed Control Motor	4	23	A	92
Swing M/c (Rotate unit after shear)	Pump Motor(Hyd. unit)	11	1	A	11
Press Breaker	Main M/C Pump Motor	75	4	A	300
	Control Pump Motor	5.5	2	A	11
	Crowning Motor	0.37	2	A	0.74
Press Feeding	Feeding Servo Motor	2.6	10	SERVO	26
	Pump Motor	11	1	A	11
	Pump Motor	5.5	1	A	5.5
Tool Part	Ejection Pump Motor	7.5,3	2,2	A	21
	Pipe Turnig Motor	0.55	10	A	5.5
	Feeding Out Motor	5.5	1	A	5.5
Uncoiler	Uncoiler	7.5	1	A	7.5
	Pinch Leveller	67	1	D	67
	Crop Shear	37	1	A	37
Side Trimmer	Pinch Roll	75	1	D	75
	Side Trimmer	110	1	D	110
	Chopper	22	1	D	22
	Scrap Winder	22	2	D	44
Welding M/C (option)	Welder	132	4	A	528
	Pump Motor	230	1	A	230
	Control Motor	3.7	10	A	37
Crane(option)	AC Motor Vaccum - 5ton Magnet - 10ton	50	1	A	50
Total				1800.84	

Appendix - Tandem Press brake

No.	SPECIFICATION	SINGLE	LINKAGE	UNIT	
1	Nominal force	24000	48000	KN	
2	Max. Width	8500	17000	mm	
3	Max. Opening Height	1300	1300	mm	
4	Stroke of ram	400	400	mm	
5	Adjustment of ram	400	400	mm	
6	Depth of gap	1650	1650	mm	
7	Distance between uprights	6000	6000	mm	
8	Width of table	700	700	mm	
9	Approach speed	60	60	nm/s	
10	Working speed	6	6	mms	
11	Return speed	55	55	mm/s	
12	Max. System	28	28	MPa	
13	Motor Power	150	300	Kw	
14	Oil tank capacity	4500	9000	dm3	
15	Overall dimensions	L	8845	17690	mm
16		W	5075	5075	mm
17		H(Form ground)	5750	5750	mm
18	Machine weight	230000	460000	Kg	

Note :The max. loading on the length unit is 3000Kn/m.

Appendix -PressFront & back auto feeding and extracting system

FRONT FEEDING	Feeding distance	3600	mm
	Working speed	100	mm/s
	Position accuracy	0.5	Mm/m
	Repeat position accuracy	0.3	Mm/m
	Force	15	kN
BACK FEEDING	Fedding distance	1700	mm
	Working speed	100	mm/s
	Position accuracy	0.5	mm/m
	Repeat position accuracy	0.3	mm/m
	Force	15	Kn
EXTRACTIN G SYATEM	Air pressure	0.6	MPa
	Force	500	Kg
Max. HYDRAULIC PRESSURE		16	Mpa

Appendix – Section photo machinery



Uncoiler



Uncoiler + Leveller O/P



Pinch Leveller



Side Trimmer



Side Trimmer + Chopper O/P



Crop shear



Shear M/C



Shear M/C + Rotating O/P



Taper plate Rotating M/C



Press Breaker



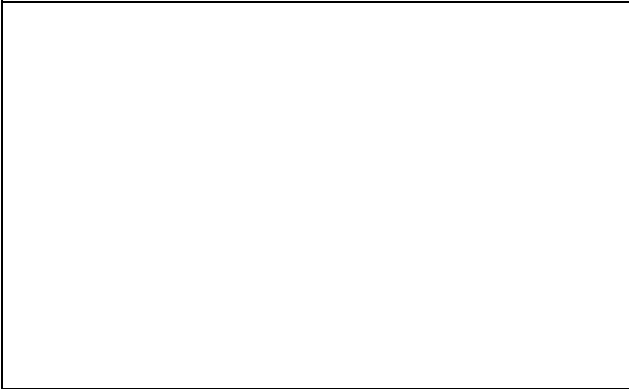
PressBreaker O/P



Welding M/C



LEFT – CMF Welding M/C O.P



RIGHT –Welding M/C O/P

end