



บริษัท ที.ที.แอล. เอ็นจิเนียริง ซิสเต็มส์ จำกัด  
TTL Engineering Systems Co.,Ltd.

# Compact coil feeding line configuration

Model: GLK4-800 (0.6-6.0 mm)

74/4 หมู่ที่ 19 ถนนนิมิตรใหม่ ตำบลลำลูกกา  
อำเภอลำลูกกา จังหวัดปทุมธานี 12150  
โทร. 02 191 1724-6 แฟกซ์ 02 191 1727  
ฝ่ายขาย โทร. 062 456 8833

# 1. Material to be processed

Material	Hot-rolled steel/ Cold-rolled steel/ Galvanized steel/ Pickle steel
Material yield point	245 N/mm <sup>2</sup>
Coil Width	70-800 mm
Thickness	0.6-6.0 mm
Coil O.D.	Φ1500 mm
Coil I.D.	Φ508 mm (Φ475-520mm)
Coil weight	Max. 7000 kgs

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## 2. General Features

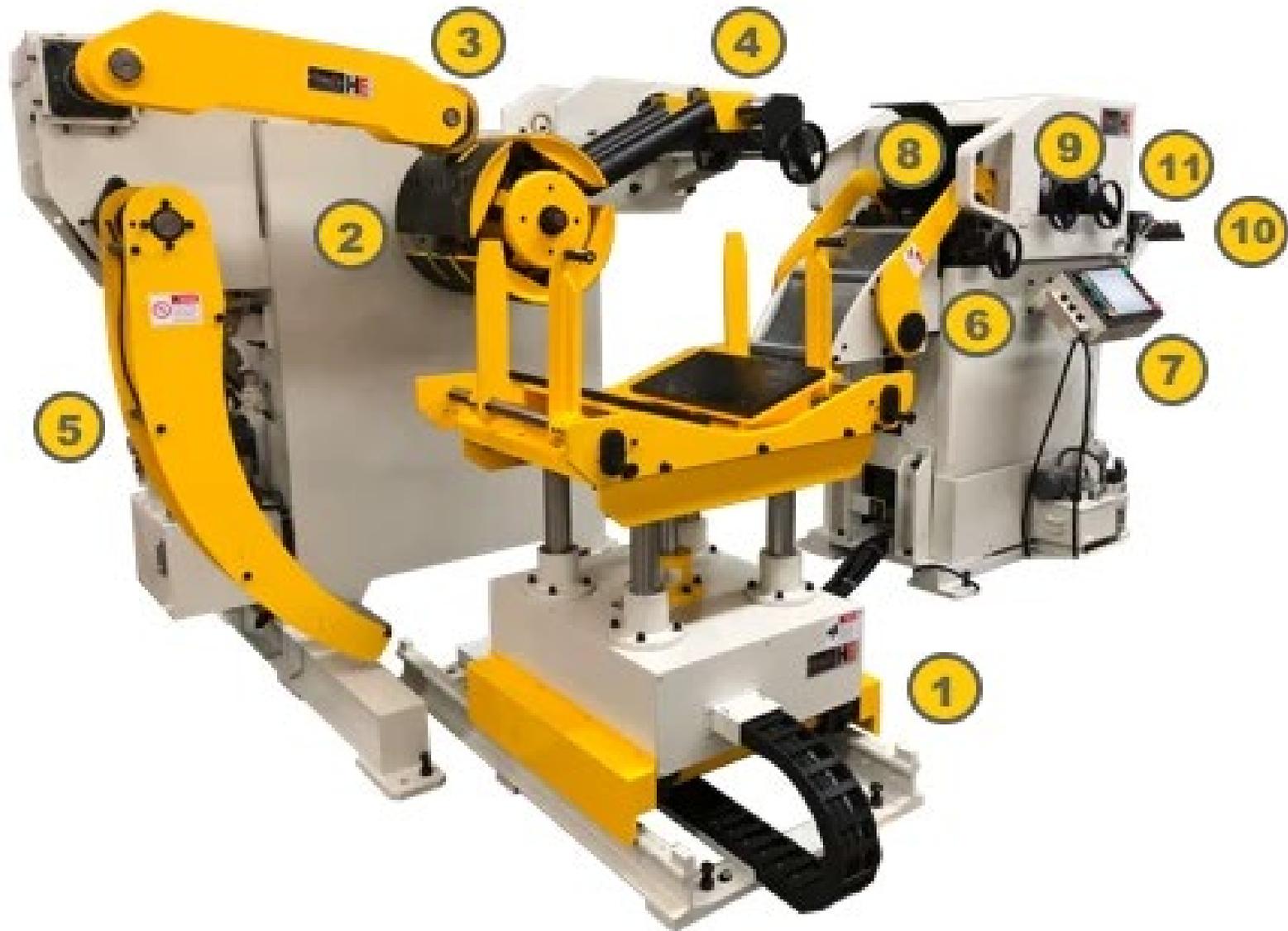
- Feeding Length: 0-9999.99mm
- Feeding Precision:  $\pm 0.15\text{mm}$  when feeding length  $\leq 500\text{mm}$
- Feeding Speed: Max. **20m/min**
- Feeding Direction: From **Left** to **Right**
- Uncoiling Direction: **Counterclockwise**
- Feeding Height: Customer-specified  $\pm 100\text{mm}$   
(Standard  $1200\text{mm} \pm 100\text{mm}$ )
- Hydraulic System Pressure:  $70 \text{ kg/mm}^2$



### 3. Straightening Capacity

Yield point (N/mm <sup>2</sup> )	184	245	306
Tensile strength (N/mm <sup>2</sup> )	294 (30 kgf/mm <sup>2</sup> )	392 (40 kgf/mm <sup>2</sup> )	490 (50 kgf/mm <sup>2</sup> )
Capacity Thickness	Capacity Width		
0.6 mm	800	800	(800)
1.2 mm	800	800	800
2.2 mm	800	800	800
2.5mm	800	800	800
3.2 mm	800	800	723
4.0 mm	800	755	598
4.5 mm	712	589	452
5.0 mm	507	450	387
5.5 mm	440	326	255
6.0 mm	368	253	185

## 4. Refer Photo



# 5. Detail Images

**1** Coil Car  
Hydraulic power, wear-resisting surface



**2** Decoiler Mandrel  
Hydraulic Expansion, Delta Inverter



**3** Pressing Arm  
Coil well-knit, no disperse



**4** Limiting Arms  
Locating coil, avoid coil slip



**5** Supporting Arm  
Auxiliary support the coil



**6** Auxiliary Inlet Device  
With swing arm to lead the material



# 6. Detail Images

**7** Control Board  
Mistubishi Touchscreen



**8** Straightening Part  
GCr15 steel straightener rolls



**9** Handwheel  
Straightening value adjustment



**10** Shearing Unit (optional)  
Hydraulic shear



**11** Lubrication Unit (optional)  
Automatic control, 20L



**12** Servo System  
Yaskawa servo motor and servo drive



## 7. Coil Car

- Loading Capacity: 7000 kgs
- Wear-resisting surface ①
- Adjustable baffles, prevent the coil dumping ②
- Lifting by hydraulic cylinder, with pressure retaining valve to guarantee a smooth lifting ③
- Horizontal movement by hydraulic motor, with throttle valve for speed adjustment ④
- Traction offside prevention by stroke switch and limit stop
- Control by manual button



## 8. Decoiler



- Decoiler mandrel loading width 50-800mm, loading weight 5000kgs
- Expansion: **Hydraulic type**, expansion range  $\Phi 475\text{mm}$ - $\Phi 520\text{mm}$
- Drive Motor: AC gear motor, with inverter control
- Driving Method: Big pitch double-row chain transmission
- Brake Mode: Pneumatic disc brake
- Uncoiling Direction: **Counterclockwise**
- **Pressing Arm**: Add pressure on coil, prevent coil disperse, open/close by air cylinder ( Motorized PU wheel, 1pc) ①
- **Limiting Arms**: Locating coil, prevent coil slip, open/close by air cylinder, distance between arms adjusted by hand wheel ②
- **Supporting Arm**: Auxiliary support the metal strip go to straightening part, powered by air cylinder ③
- Loop control by photoelectric sensor

# 9. Straightening Feeding

## Coil inserting swing arm

- Working with supporting arm, coil inserting swing arm will press the coil head, lead metal strip from decoiler to straightening part, prevent the strip go up directly after decoiling.
- Swing Arm: Drive by pneumatic cylinder, controlled by touch screen panel
- Pitch Roll Power: Gear drive, share power with straightening feeding part
- Pitch Roll: 2pcs
- Inlet Width Adjustment: 2 group of movable wheels, adjusted by handwheel



# 10. Straightening Feeding

- Drive Method: Servo motor, 7.5Kw
- Straightening Pressure: Handwheel adjustment, displayed by dial scale, setting precision **0.1mm**
- Feeding Precision:  **$\pm 0.15\text{mm}$**  when feeding length less than 500mm
- Max. Feeding Speed: **20m/min**
- Feeding Height Adjustment: Electric adjustment

## Outlet support bracket

Convey metal strip from straightening feeding parts to die entrance

- Hard chrome plating roller
- Bracket length: 600mm (Customization available)



# 11. Electronic Control System

No.	Item	Brand
1.	Electric Eye Loop Control System	Omron, Japan
2.	Inverter	Delta, Taiwan
3.	Decelerate motor of feeding	CPG/Wanshsin, Taiwan
4.	Pneumatic cylinder	CKD/WPI, Japan
5.	Pneumatic electromagnetic valve	SMC, Japan
6.	Straightening bearing	NSK, Japan
7.	Servo drivers	Yaskawa, Japan
8.	Servo motor	Yaskawa, Japan
9.	Touch screen	Mitsubishi, Japan
10.	PLC programmable controller	Mitsubishi, Japan
11.	Disconnecter	Schneider
12.	Contactors	Schneider
13.	Control button	IDEC, Japan
14.	Relay	IDEC, Japan
15.	Pneumatic components	SMC/CKD, Japan

# 12. General

- Max. Length ~4500 mm
- Max. Width ~3600 mm
- Max. Height ~2800 mm

## Consumption

Power Supply	AC380V $\pm$ 10%, 50HZ $\pm$ 2%, 3PH, 5 Lines
Compressed Air Pressure	0.5Mpa
Hydraulic Group Refrigeration	Water
Working Temperature	-10 to +45 °C
Relative Humidity	$\leq$ 95%

