

## CREEL

1. **Type:**  
Stationary, Side to Side, Side to Side and Front to Back, Rotating
2. **Number of beams:**  
8, 12, 16, 20, 24, 28, 32
3. **Beam widths:**  
1,800, 2,000, 2,200, 2,400mm
4. **Brakes:**  
Pneumatic band (5 to 20kg. per beam)
5. **Tension control:**  
by load cell ( $\pm$  1.0 GPE)
6. **Beam flange diameter:**  
1,000, 1,100, 1,250mm
7. **Beam type:**  
Euro gear or journal type

## SIZE BOX

8. **Number of size boxes::**  
1 or 2 Vertical Exit DDDS
9. **Working width:**  
1,800, 2,000, 2,200, 2,400mm
10. **Draw Roll Assy. (tension controlled):**  
Motor driven
11. **#1 Squeeze roll rubber covered:**  
150mm $\varnothing$  x working width + 200mm
12. **Size Rock driven roll:**  
230mm $\varnothing$  working width + 200mm
13. **#2 Squeeze roll rubber covered:**  
230mm  $\varnothing$  uni-squeeze x working width + 200mm
14. **Squeeze roll rubber coverings:**  
65 durometer
15. **#1 Squeeze roll loading:**  
0-20kN
16. **#2 Squeeze roll loading:**  
0-40kN

## GENERAL SPECIFICATIONS: GSSM-100-S SIZING MACHINE (SHEETING)

17. **Seal-less pan design:**  
Roll journals are above the size level which eliminate the need for shaft seals
18. **Sheet exit:**  
Single or wet-split
19. **Tension control:**  
by load cell rolls ( $\pm$  1.0 GPE)
20. **Stretch:**  
Monitored to within 0.01% stretch
21. **Pan capacity (Teflon coated):**  
180, 200, 220, 240 liters
22. **Filtration:**  
Screen type
23. **Size temperature control:**  
RTD/on-off steam valve
24. **Size heating:**  
direct steam heating
25. **Size level control:**  
by Over-flow weir
26. **Size add-on:**  
by continuous calculation from size consumption and speed/yarn throughput, size add-on control using PLEVA (optional)
27. **Storage kettle:**  
Closed steam coil, 1,200, 1,500, 2,000 liter
28. **Cooking kettle:**  
Open steam coil, 1,000 liter
29. **Kettle pumps:**  
From cooker to storage and storage to sizer
30. **Controls:**  
Temperature control for each kettle

## DRYING SECTION

- 31. **Dry Cylinder specifications:**  
800mmØ x working width + 200mm
- 32. **Working steam pressure:**  
5 Bar
- 33. **Temperature control:**  
RTD, controlled in 2-can groups
- 34. **Drying section drive system:**  
Tension controlled by load cell ( $\pm 1.0$  GPE)
- 35. **Stretch:**  
Monitored (within 0.01% stretch)
- 36. **Drive type:**  
Self-lub chain (final stack only)
- 37. **Over-oiler/waxer:**  
Steam heated
- 38. **Hood:**  
Buyer to arrange hood locally as per UKIL design
- 39. **Exhaust fans:**  
16,000m<sup>3</sup>/hr. per fan

## HEAD END

- 40. **Winding head type:**  
Conventional
- 41. **Loom beam width:**  
2,200mm to 5,400mm
- 42. **Loom beam diameter:**  
1,000mm, 1,100mm, 1,250mm, 1,400mm
- 43. **Maximum mechanical speed:**  
150 MPM
- 44. **Maximum winding tension:**  
900 Kg
- 45. **Tension control:**  
by load cell ( $\pm 1.0$  GPE)
- 46. **Stretch**  
Monitored (within 0.01 stretch)
- 47. **Delivery roll (urethane covered):**  
260mm Ø working width + 200mm
- 48. **Nip roll/load cell roll:**  
160mm Ø working width + 200mm

- 49. **Doffing:**  
Hydraulic operation 3,200kg max. capacity
- 50. **Dual Press Roll Assembly:**  
pneumatically controlled 100kg - 600kg
- 51. **Comb:**  
Zig Zag, motorized movement
- 52. **Taping device**  
Motorized movement
- 53. **Final moisture (full width of sheet):**  
Resistive rod sensor

## DRIVE AND CONTROL SYSTEM

- 54. **Human Machine Interface (HMI):**  
480mm color touchscreen utilizing MS Visual Basic
- 55. **PC based:**  
2Gb Compact Flash card stores all programs/style information, reliable diskless technology
- 56. **Maximum ambient operating temp:**  
50° C, AC unit is required for higher temperatures
- 57. **Operating system (embedded):**  
Microsoft Windows 7 with real time extension
- 58. **Control software:**  
IEC 61131-3 compliant
- 59. **Style recipe storage:**  
Up to 999 styles
- 60. **Communication:**  
High speed Ethercat to drives and I/O
- 61. **Drives:**  
Yaskawa A1000 AC Vector/Servo
- 62. **I/O:**  
Beckhoff Ethercat distributed I/O with direct strain gauge interface, RTD, current, voltage, relay, etc. mounted close to the device for easy installation and troubleshooting
- 63. **Motors:**  
SEW with encoder feedback for speed control
- 64. **Control cabinets:**  
3C labeling on all wiring

## 65. eXpert Service Link:

Offers remote diagnoses for hardware status, sensor status, calibrate sensors as required and help with style setup issues.

## 66. Remote access:

Through Teamviewer and plant provided CAT5 internet connection 3C labeling on all wiring

Controls:

- a) Creel tension control in grams per end.
- b) Draw roll tension control in grams per end.
- c) Size box tension control in grams per end with % stretch monitored.
- d) Lease tension control in grams per end with % stretch monitored.
- e) Loom beam winding tension control in grams per end.
- f) Size temperature control of the size box.
- g) Size level control and low level alarm in the size box.
- h) Squeeze roll pressure control of the size box, linear step less type.
- i) Dry can temperature control in six zones.
- j) Overoiler speed and temperature control
- k) Moisture control of delivered yarn by speed.
- l) Loom beam length control.
- m) Cooking and storage kettle temperature controls
- n) Internet connection, eXpert Service Link for remote assistance.
- o) Clear annunciation of warnings and fault