RIETER-SCRAGG

DCS 1200

Leadership by innovation

General Specification

Positions
216

Mechanical Speed
Up to 1200m/min

Creel
6 high construction, with gates swinging out for rear loading. Maximum package size for transfer operation 360mm dia × 250mm stroke. Suction tubes guide yarn from package to input zone.

Yarn Feed Systems
Single pass nip input feed mounted on outrigged frame. Double wrap capstan nip output feed. Hard chrome plated steel feed rollers mounted directly on to through shafts. Safety shrouds fitted between rollers to facilitate wrap removal. "Fizz" traverse fitted to all feeds.

Twisting Units
POSITORQ® 2A with either LO-SNO® or SUPERTWIST® discs. Symmetrical geometry for S and Z operation. Threading mechanism fitted on each unit inserts yarn into running position.

Take-up Zone
Bay length traverse assemblies, maximum speed 600 cycles/min. Radial disturbance is by cyclic variation of an eddy current coupling, adjustable from 0 to +/ – 7%. Axial disturbance is via an accurate mechanical linkage driven from a single motor. The amount of edge disturbance is adjustable up to 12mm.
Heavy duty cradle, fitted with programmed feed back to produce double taper packages of 3, 7,14 or 21° nominal taper.
Package brake and latch open facilities are fitted to aid doffing. Cradle end caps to suit take-up tubes measuring 69.05/69.21mm ID (plain) × 57.69/ 57.99mm ID (bull nosed) × 289/291mm long. Maximum package size 250mm stroke (mechanical) by 250mm diameter.

Yarn Oiling
Yarn lick rolls in machine length troughs each side located above the take-up. Oil is pumpd from a 40 litre tank via weir tanks into the troughs. Shaft speed is variable between 2-13 or 6-39rpm.

Detectors and Cutters
Non-contact detectors between output feed and yarn oiling operate cut and hold devices situated prior to input nip. Signal lamp warns operator of break.

Control Systems
INTROL® integrated microprocessor based control and information system controls and monitors heater temperatures, traverse, axial/radial disturbance and all motors.
Heater temperature range: 1.5m and 2m 160 to 250°C: 2.5m 170 to 250°C:

Fume Extraction
Via ports at each heater twin track position. Ducting connects to integrated extraction fans both sides of the machine each rated at 2.2kW with a capacity of 27.8m^3/ min at 25mbar. Each fan unit houses removable filter and condensate collection tank. Adaptor provided to allow customer single connection of duct to plant system.

Yarn Suction
4 stage suction fan and 2 waste yarn tanks fitted in end leg. Suction tubes and compressed air manifolds fitted each side of the machine with plug in suction gun extensions. Suction gun uses compressed air to generate high suction, and the suction tube system conveys waste to the collection tanks.

Machine Drives
45kW (60HP) A.C. motor drives take-up traverse, all yarn feed systems and twisting units via a timing belt gearbox. The following change ratios are supplied:

Machine speed 500 to 1200m/min. nominal.

Draw ratio 1:1 to 3.34:1 in increments of approximately 0.05

Disc/yarn ratio 1.55:1 to 2.25:1 in increments of approximately 0.05.

Take-up overfeed 0 to 9% in increments of approximately 0.5%.

Yarn oiling roll drive 0.55kW (0.75HP) A.C. motor via an eddy current coupling. Speed range variable between 2-13 or 6-39rpm.

DCS 1200 A

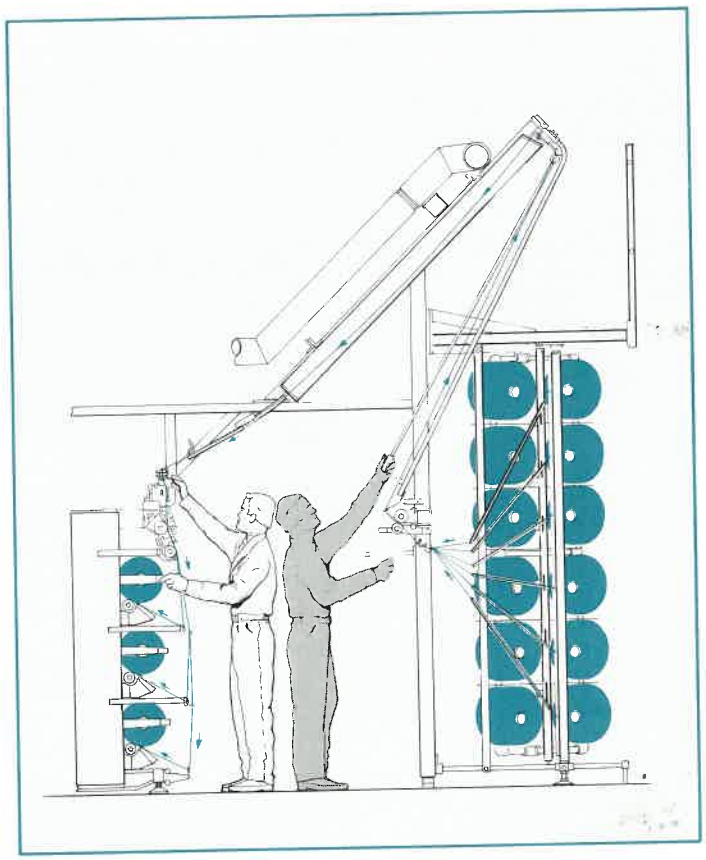
A straight threadline between the heater and the Positorq unit provides the ability to process fine and sensitive yarns at high speeds.

Heater

2m (or 1.5m optional) demi bay (3 twin tracks per unit) thermosyphon heaters installed at 44° to horizontal over the outrigged frame. Rotary twist stop at heater entry.

Cooling Zone

With 2m heater, 0.9m nominal length with 0.66m effective contact length of cooling/stabilising track. Optionally with 1.5m heater, 0.75m nominal length with 0.52m effective contact length of cooling/ stabilising track.



DCS 1200 B

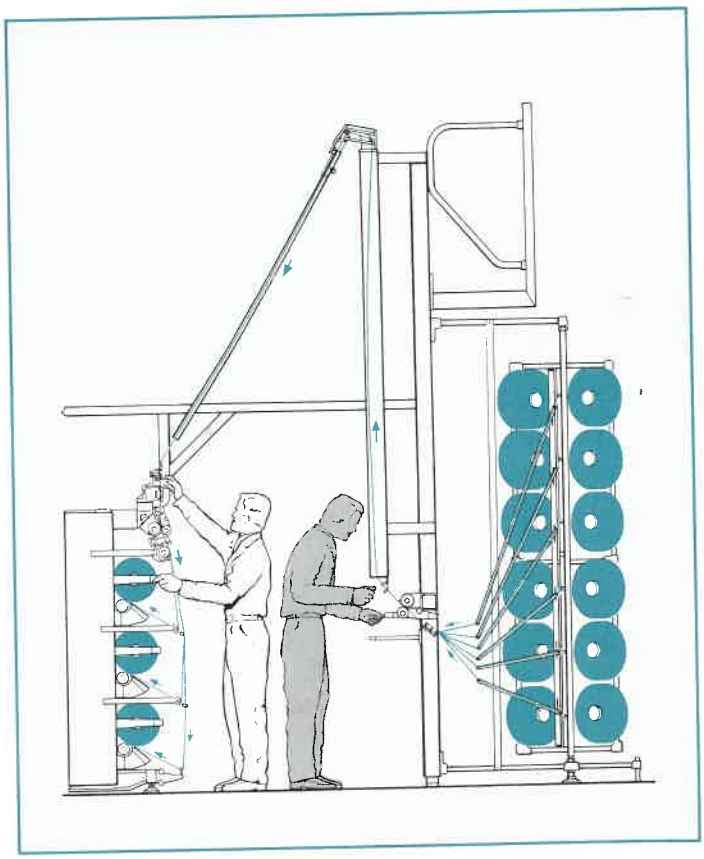
A folded threadline between the heater entry and the Positorq unit allows a compact design which provides particular benefits when processing heavy yarns at high speeds.

Heater

2.5m demi bay (3 twin tracks per unit) thermosyphon heaters installed vertically on outrigged frame.

Cooling Zone

2.25m long with 2.1m effective contact length of cooling/stabilising tracks.



Recommendation

The A configuration is recommended where a substantial part of the product range is less than 40 denier. For other applications the B configuration is recommended.

Options – both configurations

APS
To give supreme package unwinding performance to the maximum diameter of 250mm for the most critical end uses.

Air jets
Fitted after output zone to produce co-mingled or inter-mingled yarns.
Note: The yarn oiling is fitted separately to each deck with this option (Metoil not available).

Alternative creels
Either large capacity 6 high, rotary or trolley types can be supplied for package sizes up to 550mm diameter.

Maintenance platform
To give access to heaters for easier maintenance.

Shaft speed monitoring
A supplement to Introl to provide continuous monitoring for all shaft speeds.

Efficiency monitoring
A supplement to Introl to provide extensive information on process efficiency.

Computer interface
A supplement to Introl to provide the facility to interface to a central computer.

Metoil®
A metered yarn lubrication system to give more accurate oil application with less splash, reduced drag and lower maintenance.

Options – 'A' configuration only

Alternative heater
1.5m demi-bay thermosyphon heaters.

Sequential draw system
For customers using UDY supplies.

Hitorq
For controlled insertion of low twist levels.

Options – 'B' configuration only

Positorq 3
For high twist insertion with minimum yarn damage.

Positorq 5
For full twist level flexibility with minimum yarn damage.

Power Consumption

Service	Connected load kVA	Maximum load kW	Typical load kW 22 dtex at 1000m/min	78 dtex at 750m/min
Main Motor	57	49	36	31
Ancillaries	17	15	7*	7*
Heaters:				
1,5m	47	47	27	
2,0m	54	54	34	
2,5m	71	71		41
Total load				
1,5m	121	111	70*	
2,0m	128	118	77*	
2,5m	145	135		79*

* Yarn oiling roller drive motor included, but excludes load of suction doff motor

Dimensions

Length	17.210m
Length with doors open	18.260m
Width over creel	6.340m
Width over creel with gate and package open	7.640m
Height 1.5m A	3.565m
2.0m A	4.010m
2.5m B	3.974m
Weight 1.5m A (with APS)	32,100kg (34,100kg)
2.0m A (with APS)	32,700kg (34,700kg)
2.5m B (with APS)	33,200kg (35,200kg)

Services

Power
3 phase supply voltage with maximum acceptable fluctuation of +/– 6% volts and +/– 0.5Hz.
Wiring and switch gear to machine to be provided by customer to suit power conditions stated.

Compressed Air
Customer to provide 5.5 to 6.9 bar supply to 1 inch BPS connection at each side of machine. Volume of air used will be approximately 1m^3/ min by each gun. Supply should incorporate 50 micron filter. When 216 air jets fitted volume of air used increases to maximum of 16m^3/ min. In this case air must be oil free to less than 0.1ppm and dry to dew point of + 3°C maximum.

Air Conditioning
Recommended room conditions
20-25°C:60-65% humidity.

Fume removal
Customer to provide ducting from machine to the outside of the building.

Lighting
General plant lighting and local machine lighting in the operating aisle is recommended to a minimum level of 400 Lux.

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