DEERFIELD
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CAMERON TYPE CT16 TWO DRUM WINDER

EQUIPPED WITH A TWO MOTOR ELECTRIC DRIVE

SPECIFICATION

Type of Winder	CT16
Serial No:	PP3860
Customer Material	Paperboard 15# - 60# (24 - 97 gsm)

REWIND

Maximum web tension	6Pli (1.05N/mm)
Maximum web width	107" (2718mm)
Minimum web width	60" (1524mm)
Maximum web diameter	60" (1524mm)
Maximum mechanical speed	3500Fpm (1067m/min)
Nominal maximum speed	Determined by quality and gauge of paper
Rewind cores:	3", 4", 6", 8" & 10" ID paper (76, 101, 152, 203 & 254mm)

SERVICES

Air supply, minimum required	80psi (5.5 bar) clean dry
Electrical	460v, 3Ph, 60Hz Control 110v AC

1.0 INTRODUCTION

Cameron two drum winders are designed to slit large diameter reels of paper at high speed. Operators should not use the winder until they have been instructed by experienced or supervisory personnel and have read all the safety precautions and operating procedures. Always keep one copy of this manual with the machine so that it may be referred to at any time.

1.1 General Safety Precautions

Make sure the work area is free from debris, oil spills, or any item that can obstruct clear access to the winder. Do not operate the machine when the surrounding area is wet, slippery or fouled with web materials.

Operators should always check the action of Emergency Stop when taking over the machine at the beginning of each shift. Operators should always ensure all bearing caps are closed before operating the machine.

All non essential personnel and other visitors should be kept at a safe distance from the machine when it is operating.

Do not clean glue or web particles from the machine, or touch any other moving part, whilst the machine is operating.

Ensure all guards are in place and in good condition before starting the machine. Do not tamper with fixed guards or reach through, around or behind them.

Do not operate the equipment at a rate or capacity higher than that for which it was designed.

Avoid bulky or torn clothing, long sleeves, neckties or jewellery. Long hair should be tied back. Safety shoes should be worn at all times.

Loose, or misplaced electrical cables or pneumatic pipes should be reported immediately and only dealt with by authorised engineers.

Bent unwind or rewind shafts should not be used.

1.2 General Safety Precautions for Maintenance Engineers

In addition to observing safety precaution of 1.1, maintenance engineers should be aware of the following:

The machine should be isolated from mains power before fixed guards are removed.

Machinery should not be oiled or greased whilst it is operating.

Adjustments should not be made on items which are on or near moving parts.

98" ≈ 250 cm

2.0 MACHINE DESCRIPTION

2.1 INTRODUCTION

The purpose of a conventional two-drum winder is to produce rolls of paper with consistent density characteristics. The final density (roll hardness) will depend on the tension in each layer of the reel during build-up and this tension can be controlled by adjustments to the following:

2.1.1 Unwind Web Tension

Generally the web tension is dependent on the type and grade of paper being run. Typically 40gsm papers may require 300g/cm, whereas 300gsm paper may reach 1200g/cm. The two rewind drums oppose the torque applied by the unwind brake to create the required tension.

2.1.2 Drum Torque Ratio

At the beginning of winding the front drum must always apply a higher torque than the rear drum, so as to help build a tight reel close to the core. As the reel builds up the tension must be progressively decreased by the use of Taper, in order to prevent starring at the reel centre.

Typically 40gsm paper may require 60% ratio at the start of wind falling by 10% taper to 50% when the reel reaches maximum diameter. Heavier papers may require 60% to 70% at start with 15% to 20% taper. Lightweight paper should not have ratios of less than 50% at any time or creasing of the paper may occur.

2.1.3 Rider Roll Nip Pressure

At the beginning of winding the rider pressure must be high enough to allow the drums to pull the required torque. As the reel builds up, the nip pressure must be tapered off. The Cameron processor will reduce the nip pressure to zero at maximum diameter if the taper is set to 100%, or to zero at half maximum diameter if set at 200%.

gsm × .614 = #/3000 sf

2.2 The CT16 Slitter Rewinder

The CT16 winder has two drums of 411mm diameter each driven independently by a DC motor. Positioned above the drums is a Rider Roll which applies pressure to the winding reels of paper. The correct winding requirements for differing grades of paper can be met by adjusting the rider roll pressure and the rewind drum torque.

The maximum speed of winding depends on the grade of paper being run.

Wrap shear (circumferential shear) is used on the winder with multi groove bottom knives running on a pneumatically expanding driven mandrel. The top knives are independently mounted on a dovetail beam and are also pneumatically operated. There is one bowed roll immediately before slitting and two following it.

For unloading finished reels there is a hydraulically operated roll lowering table which also functions as a barrier guard. A pneumatically operated roll ejector transfers the finished reels from the winding drums to the lowering table.

All the main functions of the machine are controlled by the operator from the main control desk. Extra controls are provided where necessary around the machine.

2.3 UNWIND NOT OF OUR SUPPLY

3.0 INSTALLATION

3.1 INTRODUCTION

The foundation plan/general arrangement drawing shows all measurements related to the positioning of the winder relative to a centre line. When positioning the centre line on the floor, it is important to allow enough room for opening doors and general operator access. Reference to the General Arrangement drawing may help in finalising the centre line position. The General Arrangement drawing number can be found in section 8.0 of this manual.

The notes on installation which follow are offered as a general guide. They are not intended to be comprehensive and installation engineers are expected to follow good engineering practices. The order of installation may be varied to suit site conditions.

3.2 Tools

In addition to the normal range of tools such as spanners and allen keys, the following equipment will be required:

A small supply of solvent and clean rags
An engineers spirit level
Hilti drill and bolts
Compressed air line
Sheet metal for shims

Levelling plates should be made from 50 x 50 x 10mm plate. In the centre of one side an M16 countersink should be drilled to a depth of at least 5mm.

3.3. Soleplates

These must be installed to the required tolerances with respect to the centre line and with respect to one another. A positional tolerance of ± 0.35mm and a level tolerance of ± 0.07mm is usually satisfactory.

Measure from the centre line and mark out the holes for fixing-down bolts. Check with diagonals that the positions are square. Drill and fit studs (Hilti preferred).

Place the soleplates in position with levelling plates under the levelling screws. Tighten down the fixing bolts ensuring the plates remain level across the plate in both directions and between plates. It is particularly important that when the machine is placed on the soleplate, it is level from side to side.

Grouting around the soleplates can be done at this stage or when the machine is in position.