

DESIGN CONDITIONS

Maximum Operating Temperature:	250°C
Maximum Operating Pressure - Jacket and Rotor:	40.4bar (580 p.s.i.)
Material of Construction:	316 Stainless Steel
Unit type:	V450 - 4
Total Capacity:	0.48 m ³
Useful Capacity:	0.38 m ³
Housing Diameter (internal):	450 mm
Length of Screw:	4.8 m
Total Overall Length:	9.0 m
Number of Housing Sections:	4
Agitator Speed:	27 r.p.m.
Oscillation Strokes:	approximately 1 per minute
Drive Power Installed:	75 kw (estimated)
Apparent Overall Heat Transfer Coefficient:	Approx. 50 W/m ² K (9 CHU/h ft ² °C)
True Overall Heat Transfer Coefficient:	Approx. 75 W/m ² K (13 CHU/h ft ² °C)
Method of Overpressure Relief:	open vent via item 209
Vessel vented to:	item 209
Lagging required:	Yes

Connections: Standard

Instruments:

204/XR/1	Current recorder for main drive
204/XA/1	High current alarm
204/PI/1	Local steam pressure gauge
204/TI/1	Local condensate temperature

Motors:

A - Main drive	- 75 kw (estimated)
B - Oscillating hydraulic pump	- 5.5 kw (")
C - Gear Box lubrication pump	- 1.1 kw (")

Remarks:

- 1) General description of unit is given in note PDB/PAT/3.7.4. dated April 1977.
- 2) The following factors await further discussion with the suppliers:

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- i) Is a variator required on the agitator drive for start-up, particularly from the full condition? (Pulley changes would be sufficient for other speed variations likely to be required)
 - ii) What are proposals for torque limiting device?
 - iii) What size drive motor is recommended?
 - iv) In view of load variation on drive motor, are there any special recommendations for its installation?
 - v) What added features are to be incorporated to prevent the flexing encountered in pilot plant trials (see note referred to above).
 - vi) At which end of the unit should be the feed?
 - vii) Is a double gland necessary on the stuffing box for the rotor since vacuum conditions are not required?
 - viii) What internal baffle arrangements are to be included?
 - ix) What process and mechanical guarantees will be given?
 - x) What is prediction of product output?
 - xi) What is the specification for the stainless steel?