

North American 8485 Recuperator Selection

Sheet 8485-12

SELECTION PROCEDURE

Given: scfh preheated air
 flue gas temperature
 desired preheat temperature

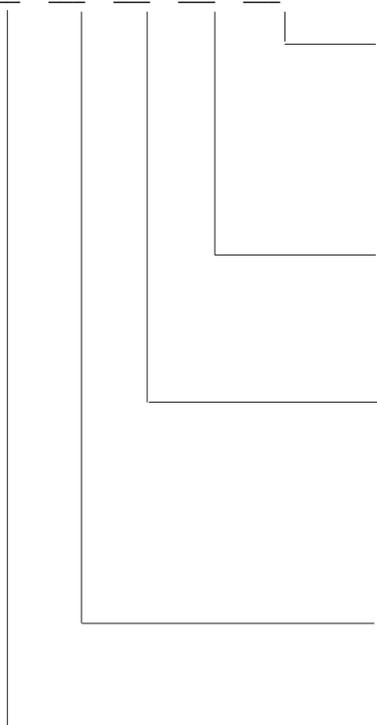
Example: scfh: 5000
 flue gas temperature: 1500 F
 desired preheat temperature: 1000 F

1. Enter selection chart (Sheet 8485-2 through -6, and -11) at scfh air, and locate intersection with flue gas temperature line.
2. Read available air preheat temperature and total pressure drop directly from curves.
3. If not satisfactory, select another size recuperator and repeat.

1. Enter 8485-4.5-48 chart (Sheet 8485-2, page 2) at 5000 scfh. Locate intersection with 1500 F flue gas temperature on grid.
2. Read air preheat achieved (about 1010 F). Read air pressure drop (about 11.5"wc).
3. Based on turndown requirement of the system, determine minimum flow through recuperator and resulting preheat temperature. If preheated air is too hot for the burner system, reduce temperature, either by adding flue gas dilution air upstream of the recuperator, or bleeding off a portion of the preheated air downstream.

Catalog Number

8485 -



EDUCTOR SECTION

- R = 16 osi supply, 14 osi available
- S = 20 osi supply, 18 osi available
- T = 24 osi supply, 22 osi available
- U = No eductor--used on the suction side of an exhaust fan. Unit supplied with open studded hole on the inlet side. eductor outlet side and blind flange on the eductor
- V = Special--see order write-up

SPECIAL FEATURES

- A = Special--see order write-up
- B = None--Standard recuperator assembly
- D = Dirty waste gas (contaminated poc). Unit supplied with open tube pitch and cleanout door assembly.

INLET FLUE GAS

- F = 1800 F High temperature (309 SS tubes)
- G = 1800 F High temperature, corrosive gases (309 SS Alonized tubes*)
- H = 1800 F High temperature (446 SS tubes) alternate to For M
- L = 1600 F Low temperature (304 SS tubes)
- M = 1600 F Low temperature, corrosive gases (304 SS Alonized tubes*)
- P = 1800 F High temperature, chloride resistant
- Q = Special--see order write-up

RECUPERATOR TUBE LENGTH

- X = 36" tube length
- Y = 48" tube length

PREHEATED COMBUSTION AIR SIZE

- 4.5 = 4 500 scfh
- 7.0 = 7 000 scfh
- 12 = 12 000 scfh
- 20 = 20 000 scfh
- 32 = 32 000 scfh
- 60 = 60 000 scfh
- 100 = 100 000 scfh

In addition, specify one of the eight arrangements shown on sheet 8485-1, page 2.

* Alonized tubes are available only in X (36") tube length.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., is inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.