

TYPICAL OVERALL HEAT TRANSFER COEFFICIENTS (U - VALUES)

Shell and Tube Heat Exchangers	Hot Fluid	Cold Fluid	U [W/m ² K]
Heat Exchangers	Water	Water	800 - 1500
	Organic solvents	Organic Solvents	100 - 300
	Light oils	Light oils	100 - 400
	Heavy oils	Heavy oils	50 - 300
	Reduced crude	Flashed crude	35 - 150
	Regenerated DEA	Foul DEA	450 - 650
	Gases (p = atm)	Gases (p = atm)	5 - 35
	Gases (p = 200 bar)	Gases (p = 200 bar)	100 - 300
Coolers	Organic solvents	Water	250 - 750
	Light oils	Water	350 - 700
	Heavy oils	Water	60 - 300
	Reduced crude	Water	75 - 200
	Gases (p = atm)	Water	5 - 35
	Gases (p = 200 bar)	Water	150 - 400
	Gases	Water	20 - 300
	Organic solvents	Brine	150 - 500
	Water	Brine	600 - 1200
	Gases	Brine	15 - 250
Heaters	Steam	Water	1500 - 4000
	Steam	Organic solvents	500 - 1000
	Steam	Light oils	300 - 900
	Steam	Heavy oils	60 - 450
	Steam	Gases	30 - 300
	Heat Transfer (hot) Oil	Heavy oils	50 - 300
	Heat Transfer (hot) Oil	Gases	20 - 200
	Flue gases	Steam	30 - 100
	Flue gases	Hydrocarbon vapours	30 - 100
	Condensers	Aqueous vapours	Water
Organic vapours		Water	700 - 1000
Refinery hydrocarbons		Water	400 - 550
Vapours with some non condensibles		Water	500 - 700
Vacuum condensers		Water	200 - 500
Vaporisers			
Steam		Aqueous solutions	1000 - 1500
Steam		Light organics	900 - 1200
Steam		Heavy organics	600 - 900
Heat Transfer (hot) oil		Refinery hydrocarbons	250 - 550

TECHNICAL DATA TYPICAL OVERALL HEAT TRANSFER COEFFICIENTS (U - VALUES)

Air Cooled Exchangers	Process Fluid	U [W/m ² K]
	Water	300 - 450
	Light organics	300 - 700
	Heavy organics	50 - 150
	Gases	50 - 300
	Condensing hydrocarbons	300 - 600

Immersed coils	Coil	Pool	U [W/m ² K]
Natural circulation	Steam	Dilute aqueous solutions	500 - 1000
	Steam	Light oils	200 - 300
	Steam	Heavy oils	70 - 150
	Aqueous solutions	Water	200 - 500
	Light oils	Water	100 - 150
Agitated	Steam	Dilute aqueous solutions	800 - 1500
	Steam	Light oils	300 - 500
	Steam Heavy oils	200 - 400	
	Aqueous solutions	Water	400 - 700
	Light oils	Water	200 - 300

Jacketed vessels	Jacket	Vessel	U [W/m ² K]
	Steam	Dilute aqueous solutions	500 - 700
	Steam	Light organics	250 - 500
	Water	Dilute aqueous solutions	200 - 500
	Water	Light organics	200 - 300