FILE NAME : D:\08 Linked In\02 DWSim\00 Plan Personal\28 Compressor Sizing\28 Compressor Sizing Korf.kdf

DEFAULTS : Fitting method = Crane
fT based on steel = Yes
Compressible = Isothermal
Two phase flow = Homogeneous
Acceleration = Homogeneous
Elevation den = Flanigan
Dukler hold-up = Hughmark
Smooth pipe f = No
Sonic velocity = HEMOmega
Two phase orifice = Homogeneous
Two phase valve = Homogeneous
Atmospheric pres = 1.0133 bar abs

VIEW/PRINT SETTINGS:
Font = Courier, Size 7-8
Orientation = Landscape
Margins = 1-2 cm.

RUN MESSAGE: Case 1 Hydraulic solution reached after 2 iterations.

NOTES:
1) Close this report before running/viewing next results.
2) Report is not automatically saved or printed.
Save the report as rtf file from the Korf menu (Hydraulics | Results | Save Report) or editor menu (File | Save As for MS Word).
After the final run, print the saved report with an editor (MS Word, etc.) for quality assurance purposes.

Circuit Feed 1

Number	Description	Flow kg/h	Density kg/m3	Visc cP	Dia in	Sch	Length m	dP/L kPa/100m	Velocity m/s	Elev m	dPelev bar	dPin-out bar	Pin barg	Pout barg
F1	Feed									0	0	0	0	0
L1	Pipe	3,600	0.685	0.011	10	40	5.0	1.7	28.7		0	0	0	0
C1	Compressor									0		-5.0	0	4.999
L2	Pipe	3,600	2.56	0.016	6	40	10.0	5.91	20.9		0	0.00593	4.999	4.993
TK1	Product									0	0	0	4.993	4.993

NOTES - (1) dPElev and dPin-out represent DRAWING Inlet - Outlet.
(2) dPin-out = dPElev + dPfrictional + dPaccel
(3) Vessel/Tank dPElev represent effect of fluid levels inside vessel.
(4) Elev represent equipment or nozzle (vessel/tank) elevation.

Line number		L1			L2		
Line name		Pipe			Pipe		
PROCESS DATA		AVG	IN	OUT	AVG	IN	OUT
Temperature	C	25.0	25.0	25.0	200	200	200
Pressure	barg	0	0	0	4.996	4.999	4.993
Liq Fraction	wt	0	0	0	0	0	0
Total-Flow	kg/h	3,600			3,600		
Dens-NS	kg/m3	0.685	0.686	0.685	2.56	2.56	2.56
Elev	kg/m3	0.685			2.56		
Visc-NS	cP	0.011			0.016		
Vapor-Flow	kg/h	3,600			3,600		
Density	kg/m3	0.685	0.686	0.685	2.56	2.56	2.56
Visc	cP	0.011	0.011	0.011	0.016	0.016	0.016
Mol wt		16.7	16.7	16.7	16.7	16.7	16.7
Z		0.998	0.998	0.998	1.00	1.00	1.00
Cp/Cv		1.29	1.29	1.29	1.21	1.21	1.21
Liquid-Flow (wt)	kg/h	0			0		
Flow (vol)	m3/h	0			0		
Density	kg/m3	0	0	0	0	0	0
Visc	cP	0	0	0	0	0	0
PIPE DATA							
Material		Steel			Steel		
Size	in	10			6		
Length	m	5.0			10.0		
Schedule		40			40		
ID Flow/Hydr	m	0.255	/ 0.255		0.154	/ 0.154	
Roughness (E-3)	m	0.0457			0.0457		
Safety factor		1.0			1.0		
Sum of elev's	m	0			0		
VELOCITY							
Velocity	m/s	28.7	28.7	28.7	20.9	20.9	21.0
Sonic (Vap)	m/s	384			485		
PRESSURE DROP (In-Out)							
Overall	bar	0			0.005926		
Friction	bar	0			0.005915		
Accel'n	bar	0			0		
Static	bar	0			0		
dP/Length	kPa/100m	1.7			5.91		
LINE SIZING		MAX/LARGER	MIN/SMALLER		MAX/LARGER	MIN/SMALLER	
dP/Length	kPa/100m	22.6			22.6		
Velocity	m/s	100	0.30		100	0.30	
VelCoef	m/s	145	12.1		75.0	6.25	
Size-Larger/Small	in	12	8		8	4	
dP/Length	kPa/100m	0.711	5.35		1.48	48.1	
Velocity	m/s	20.2	45.2		12.1	47.5	

Line number	L1	L2
Line name	Pipe	Pipe
LIQUID HOLDUP		
Liquid Fraction (vol)	0	0
Liquid Holdup(dP) (vol)	0	0
2-PHASE METHOD	Isothermal	Isothermal
FLOW REGIME		
Horizontal (Mandane)	-	-
Horizontal (Dukler)	-	-
Vertical Up (Fair)	-	-
Vertical Up (Dukler)	-	-
Vertical Down (Golan)	-	-
HOMOGENEOUS/DUKLER/BEGGS		
Reynolds No	455,174	515,132
Friction factor	0.01538	0.01622
Friction factor (turb)	0.01342	0.01489
ftp/fns	0	0
Dentp/Denns	0	0
LOCKHART-M/CHENOWETH-M		
Liquid-Re	0	0
f	0	0
Psi/Psi^2	0	0
Vapor-Re	0	0
f	0	0
Psi^2	0	0
X factor	0	0
FITTINGS	TYPE No L/D K	TYPE No L/D K
	Entrance 0 0 0.50	Entrance 0 0 0.50
	Exit 0 0 1.0	Exit 0 0 1.0
	Gate valve 0 8.0 0	Gate valve 0 8.0 0
	Globe valv 0 340 0	Globe valv 0 340 0
	Check 0 50.0 0	Check 0 50.0 0
	Stop-check 0 400 0	Stop-check 0 400 0
	Elbow 0 20.0 0	Elbow 0 20.0 0
	180 Bend 0 50.0 0	180 Bend 0 50.0 0
	T-Straight 0 20.0 0	T-Straight 0 20.0 0
	T-Branch 0 60.0 0	T-Branch 0 60.0 0
	Other 1 0 0	Other 1 0 0
Fitting K	0	0
Fitting L/D	0	0
Total Eq Length m	5.00	10.0

NOTES - (1) dPoverall = dPfrictional + dPaccel + dPstatic
(2) NS = No slip or homogenous

Number	Description	Elevation m	Density kg/m3	Level m	Rel Elev m	dP loss bar	dP level bar	dP inlet bar	dP total bar	Pres barg
F1	Feed	0	0.686	0	0	0	0	0	0	0

NOTES - (1) dP Inlet for Feed, Products and Vessels represent pressure to velocity conversion only, not friction.

Number	Description	Elevation m	Density kg/m3	Level m	Rel Elev m	dP loss bar	dP level bar	dP inlet bar	dP total bar	Pres barg
TK1	Product	0	2.56	0	0	0	0	0	0	4.99

NOTES - (1) dP Inlet for Feed, Products and Vessels represent pressure to velocity conversion only, not friction.

Number	Description	Eff	Power kW	Flow kg/h	Density kg/m3	Flow in m3/h	Head m	Pout-Pin bar	PresIn barg	PresOut barg
C1	Compressor	0.7275	446	3,600	0.685	5,254	33,085	5.0	0	5.0

End of file