

Jim Lee  
PVC powder

44.25 m<sup>3</sup>/min  
5500 mmWC  
diam 175 mm

Part	length	Press: v-air	5500 v-product	Press.drop : 5500 press.drop	prod.loss.fact 0.00614	v-wall/v-susp	sediment
1 intake	1.0	25.2	20.4	534.	6.4	■■■■■■■■	
2 pipe	29.5	27.2	25.0	1368.	6.7	■■■■■■■■	
3 bend		27.3	14.8	1385.			
4 pipe	29.5	29.6	27.1	2445.	7.0	■■■■■■■■	
5 d.tr		29.6	27.1	2445.			
6 pipe	0.0	29.6	27.1	2445.	7.0	■■■■■■■■	
7 bend		29.7	16.0	2468.			
8 pipe	6.7	31.2	27.7	3083.	7.2	■■■■■■■■	
9 d.tr		31.2	27.7	3083.			
10 pipe	23.3	34.7	30.7	4320.	7.5	■■■■■■■■	
11 bend		34.8	18.2	4342.			
12 pipe	10.0	37.0	33.4	5020.	7.8	■■■■■■■■	
13 bend		37.2	19.9	5044.			
14 outlet		37.2	19.9	5129.			
15 filter		0.5		5502.	v-filter 0.54 m/min		

No booster > Length 100.000 3.89 sec 61.kW 2.30 kWh/ton  
Forum PUC powder jld Re = 3.96 [ENTER] to continue

Forum		REMARK :		07-08-2008	
*****				08:55:39	
PRODUKT :PUC powder					
Pipeline capacity .....	=	26.33	ton/hr	Convey Length	= 100 m
System-pressure .....	=	5502.	mmwC	Number of Bends	= 4 -
Q-pump .....	=	0.738	m <sup>3</sup> /s	D-begin =175	D-end =175
Q-convey-pipe .....	=	0.828	m <sup>3</sup> /s	Outlet force ..	= 1361 N
loading-ratio .....	=	7.58	- -	<dynamic>	
NO BOOSTER					
Ambient temperature .....	=	30.0	°C	T-PUC po	22.9/ 33.5 Deg.C
Reynoldsnumber ..[ Re l...]	=	3.96	--	T-out compressor	= 130. Deg.C
spec.energy-consumption...	=	2.30	kWh/ton	Cooled heat compr	= 87 kW
backpressure at pipe-end..	=	0.		T-out booster ...	= 0. Deg.C
Δp-accel.excl.prod.resist.	=	1501.	mmwC	Cooled heat boost	= 0 kW
Δp-suspension .....	=	431.	mmwC	Compr power .....	= 61. kW
Δp-lifting .....	=	316.	mmwC	Booster power ...	= 0 kW
Δp-airfriction .....	=	1150.	mmwC	-----	
Δp-productresistance.....	=	1457.	mmwC	Total power .....	= 61 kW
Δp-intake productcolumn...	=	100.	mmwC	Mass in pipeline..	= 32 kg
Δp-intake .....	=	147.	mmwC		
Δp-nozzle .....	=	534.	mmwC	Empty pipe dp....	= 1886 mmwC
Δp-filter .....	=	373.	mmwC	[ENTER] to continue	
density product/air mix ..	=	10.2	kg/m <sup>3</sup>		

44.25 m<sup>3</sup>/min  
 3500 mmWC  
 diam 207 mm

Part	length	Press: v-air	3500 v-product	Press.drop : 3500 press.drop	prod.loss.fact	0.00641 v-wall/v-susp	sediment
1 intake	1.0	21.2	16.8	371.	4.9	██████████	
2 pipe	29.5	21.9	20.2	834.	5.0	██████████	
3 bend		21.9	11.9	844.			
4 pipe	29.5	22.9	21.1	1421.	5.1	██████████	
5 d.tr		22.9	21.1	1421.			
6 pipe	0.0	22.9	21.1	1421.	5.1	██████████	
7 bend		23.0	12.3	1433.			
8 pipe	6.7	23.8	20.8	1837.	5.2	██████████	
9 d.tr		23.8	20.8	1837.			
10 pipe	23.3	25.7	22.5	2707.	5.4	██████████	
11 bend		25.8	13.3	2719.			
12 pipe	10.0	26.6	24.2	3074.	5.5	██████████	
13 bend		26.7	14.5	3086.			
14 outlet		26.7	14.5	3131.			
15 filter		0.5		3500.	v-filter 0.55		m/min

No booster > Length 100.000 4.99 sec 49.kW 1.71 kWh/ton  
 Forum PUC powder jld Re = 3.51 [ENTER] to continue

Forum		REMARK :	07-08-2008
*****			09:13:00
PRODUKT :PUC powder			
Pipeline capacity .....	=	28.83 ton/hr	Convey Length = 100 m
System-pressure .....	=	3500. mmwC	Number of Bends = 4 -
Q-pump .....	=	0.738 m <sup>3</sup> /s	D-begin =207 D-end =207
Q-convey-pipe .....	=	0.844 m <sup>3</sup> /s	Outlet force .. = 1070 N
loading-ratio .....	=	8.01 - -	<dynamic>
NO BOOSTER			
Ambient temperature .....	=	25.0 °C	T-PUC po 26.4/ 26.8 Deg.C
Reynoldsnumber ..[ Re ]..	=	3.51 --	T-out compressor = 124. Deg.C
spec.energy-consumption...	=	1.71 kWh/ton	Cooled heat compr= 89 kW
backpressure at pipe-end..	=	0. mmwC	T-out booster ... = 0. Deg.C
Δp-accel.excl.prod.resist. =	840. mmwC		Cooled heat boost= 0 kW
Δp-suspension .....	=	460. mmwC	Compr power .....
Δp-lifting .....	=	322. mmwC	Booster power ... = 0 kW
Δp-airfriction .....	=	540. mmwC	
Δp-productresistance.....	=	764. mmwC	Total power .....
Δp-intake productcolumn...	=	100. mmwC	Mass in pipeline.. = 44 kg
Δp-intake .....	=	91. mmwC	
Δp-nozzle .....	=	371. mmwC	Empty pipe dp.... = 1056 mmWC
Δp-filter .....	=	369. mmwC	[ENTER] to continue
density product/air mix ..	=	10.7 kg/m <sup>3</sup>	

88.28 m<sup>3</sup>/min  
 5500 mmWC  
 diam 207 mm

Part	length	u-air	u-product	press.drop	v-wall/v-susp	sediment
5/5	23.1 tons/hr	Press: 5500	Press.drop : 5500	prod.loss.fact 0.00087		
1 intake	1.0	36.6	29.7	664.	9.6	■■■■■■■■
2 pipe	29.5	38.6	37.2	1298.	9.9	■■■■■■■■
3 bend		38.7	22.0	1333.		
4 pipe	29.5	41.2	39.7	2149.	10.2	■■■■■■■■
5 d.tr		41.2	39.7	2149.		
6 pipe	0.0	41.2	39.7	2150.	10.2	■■■■■■■■
7 bend		41.3	23.4	2188.		
8 pipe	6.7	42.9	39.7	2644.	10.4	■■■■■■■■
9 d.tr		42.9	39.7	2644.		
10 pipe	23.4	45.5	42.6	3377.	10.7	■■■■■■■■
11 bend		45.7	25.2	3418.		
12 pipe	10.0	47.8	45.3	3949.	11.0	■■■■■■■■
13 bend		48.1	26.9	3992.		
14 outlet		48.1	26.9	4148.		
15 filter		1.0		5500.	v-filter 0.97 m/min	

No booster > Length 100.000 2.69 sec 121.kW 5.23 kWh/ton  
 Forum PUC powder jld Re = 6.66 [ENTER] to continue

Forum	REMARK :	07-08-2008
*****		20:22:03
PRODUKT :PUC powder		
Pipeline capacity .....	= 23.11 ton/hr	Convey Length = 100 m
System-pressure .....	= 5500. mmwC	Number of Bends = 4 -
Q-pump .....	= 1.471 m <sup>3</sup> /s	D-begin =207 D-end =207
Q-convey-pipe .....	= 1.652 m <sup>3</sup> /s	Outlet force .. = 1542 N
loading-ratio .....	= 3.34 - -	(dynamic)
NO BOOSTER		T-PUC po 27.8/ 35.3 Deg.C
Ambient temperature .....	= 30.0 °C	T-out compressor = 130. Deg.C
Reynoldsnumber ..[ Re ]...	= 6.66 --	Cooled heat compr= 184 kW
spec.energy-consumption...	= 5.23 kWh/ton	
backpressure at pipe-end..	= 0. mmwC	T-out booster ... = 0. Deg.C
Δp-accel.excl.prod.resist..	= 1340. mmwC	Cooled heat boost= 0 kW
Δp-suspension .....	= 180. mmwC	
Δp-lifting .....	= 146. mmwC	Compr power ..... = 121. kW
Δp-airfriction .....	= 1869. mmwC	Booster power ... = 0 kW
Δp-productresistance .....	= 163. mmwC	
Δp-intake productcolumn...	= 100. mmwC	Total power ..... = 121 kW
Δp-intake .....	= 304. mmwC	Mass in pipeline.. = 19 kg
Δp-nozzle .....	= 664. mmwC	
Δp-filter .....	= 1352. mmwC	Empty pipe dp.... = 3909 mmWC
density product/air mix ..	= 5.2 kg/m <sup>3</sup>	[ENTER] to continue