

Date: 4/27/23

Estimated Feed Rate through p-flow valve at 100% Open when valve is located at discharge of a T-Flow hopper or discharge of Stinger.  
SEE NOTES ON STINGER SIZING

VALVE SIZE	REF. FULL PORT DIA. (DISK REMOVED)	EST. WIDTH OF DISK	AREA BLOCKED BY DISK (IN <sup>2</sup> )	FULL PORT AREA (IN <sup>2</sup> - DISK REMOVED)	OPEN AREA (IN <sup>2</sup> ) WITH DISK FULL OPEN	% FLOW CHANNEL WITH VALVE FULL OPEN
2	2.04	0.90	1.84	3.27	1.43	43.8%
3	3.06	1.00	3.06	7.35	4.29	58.4%
4	4.03	1.25	5.03	12.73	7.70	60.5%
5	5.05	1.31	6.62	20.01	13.38	66.9%
6	6.07	1.50	9.10	28.89	19.79	68.5%
8	7.98	1.75	13.97	50.01	36.05	72.1%
10	10.02	2.25	22.55	78.85	56.31	71.4%
12	12.00	2.32	27.81	113.10	85.29	75.4%

Approx. Ft <sup>3</sup> / Sec	
Min	Max
0.03	0.04
0.08	0.12
0.14	0.21
0.24	0.37
0.36	0.55
0.65	1.00
1.01	1.56
1.54	2.37

Approx. Ft <sup>3</sup> / Min.	
Min	Max
1.55	2.39
4.64	7.16
8.31	12.83
14.45	22.30
21.38	32.99
38.93	60.08
60.81	93.85
92.11	142.15

Approx. Ft <sup>3</sup> / Hr.	
Min	Max
93	143
278	429
499	770
867	1,338
1,283	1,979
2,336	3,605
3,649	5,631
5,527	8,529

Notes:

- Flow rates are to be used as a general guide. Actual Flow rates will vary by material characteristics and head pressure. Material must be less than 200 micron and flow well with TransFlow.
- When locating a PowderFlow Valve at the discharge of a Stinger, the Discharge Valve must be a minimum of 1 size larger than the Stinger Size or flow will be restricted.
- Column F represents open area when disk is REMOVED.
- Since ID of Stinger is similar to ID of same sized B-Fly Valve, Columns F may be used to estimate area of Stinger Flow Channel
- Column G indicates the estimated open area of PowderFlow Valve when disk is fully opened
- Reference relationship between Columns F & G to estimate maximum flow rate of Stinger & P-Flow Valve combination
- Approximate feed rate based on a consistent supply of material, constant head pressure at inlet, non-restrictive flow.
- For optimum Feed rate, if Stinger is located up stream of PowderFlow Valve:
  - Stinger must be a minimum of 1 size smaller than PowderFlow Valve
  - Have a length that does not exceed 15x the Stinger Size
 Example, 3" Stinger with a 4" Powder Flow Valve at Discharge having a max. CL Length from inlet to discharge of 45"