

Pump Selection Guide

MINI BELLOWS PUMPS

Order Notes: When ordering a mini bellows model, refer to steps 1 through 3 and follow the example provided.

Example: The model number and codes for a 2-tandem pump with 1" bellows module, with EPT/EPDM elastomers and 3/8" barbed connector and a 1" bellows module with Viton®/Fluoroelastomer O-rings and a 3/8" elbow connector, all driven by a 115V, 50/60 Hz, motor would be: 16220-011 X-112 T-003 X-116 T-008.

1. Using **Chart A** and **B** or **C**, select bellows module(s) and a motor RPM combination whose maximum output meets or exceeds your flow requirements. Best metering accuracy occurs when bellows modules operate at 50% or more of their maximum output. Then refer to **Charts E and F** to select an appropriate model number. If T-head valve body is required, please consult factory.

2. Using **Chart D**, select the appropriate X-code for each module's O-ring, and poppet or duckbill valve elastomers. Place largest bellows module closest to motor. Refer to example.

(Order notes continued on following page.)

CHART A

BELLOWS MODULE OUTPUT					
Bellows Size	1/2"	3/4"	1"	1 1/2"	2"
Full Stroke Displacement (ml)	.5	1.8	5	10.5	18

CHART B

MAXIMUM FLOW / MAXIMUM PRESSURE - SINGLE PUMPS										
Max Flow (ml/min)	Bellows Size									
	1/2"		3/4"		1"		1 1/2"		2"	
Motor RPM	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
8	3.3	4.0	12.0	14.4	33.3	40.0	70.0	84.0	120.0	144.0
12	5.0	6.0	18.0	21.6	50.0	60.0	105.0	126.0	180.0	216.0
15	6.2	7.5	22.5	27.0	62.5	75.0	131.3	157.5	225.0	270.0
24	10.0	12.0	36.0	43.2	-	-	210.0	252.0	-	-

CHART C

MAXIMUM FLOW / MAXIMUM PRESSURE - TANDEM PUMPS										
Max Flow* (ml/min)	Bellows Size									
	1/2" x 1/2"		3/4" x 3/4"		1" x 1"		1 1/2" x 1 1/2"		2" x 2"	
Motor RPM	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
8	6.6	8.0	24.0	28.8	66.7	80.0	140.0	168.0	240.0	288.0
12	10.0	12.0	36.0	43.2	100.0	120.0	210.0	252.0	360.0	432.0

*Total flow for both bellows

CHART D

O-RING AND POPPET/DUCKBILL VALVE OPTIONS						
Materials	Bellows Size					
	1/2"		3/4", 1" & 1 1/2"		2"	
	Poppet	Duckbill	Poppet	Duckbill	Poppet	Duckbill
EPT/EPDM	X-002	X-092	X-112	X-032	X-142	X-152
Hypalon®	X-005	X-095	X-115	X-035	X-145	X-155
Viton®/Fluoroelastomer	X-006	X-096	X-116	X-036	X-146	X-156

CHART E

SELECTED SINGLE MINI BELLOWS PUMPS				
Model Number	RPM @ 60 Hz	Bellows Size	Volts	Hz
16200-001	8	¾"	115	50/60
16200-002	8	¾"	230	50/60
16200-003	8	1"	115	50/60
16200-004	8	1"	230	50/60
16200-005	8	1½"	115	50/60
16200-006	8	1½"	230	50/60
16200-007	8	2"	115	50/60
16200-008	8	2"	230	50/60
16200-009	15	¾"	115	50/60
16200-010	15	¾"	230	50/60
16200-011	15	1"	115	50/60
16200-012	15	1"	230	50/60
16200-013	24	1½"	115	50/60
16200-014	24	1½"	230	50/60
16200-019	15	2"	115	50/60
16200-020	15	2"	230	50/60

CHART F

SELECTED TANDEM MINI BELLOWS PUMPS				
Model Number	RPM @ 60 Hz	Bellows Size	Volts	Hz
16220-009	8	¾" x ¾"	115	50/60
16220-010	8	¾" x ¾"	230	50/60
16220-011	8	1" x 1"	115	50/60
16220-012	8	1" x 1"	230	50/60
16220-013	8	1½" x 1½"	115	50/60
16220-014	8	1½" x 1½"	230	50/60
16220-015	8	2" x 2"	115	50/60
16220-016	8	2" x 2"	230	50/60
16220-017	12	¾" x ¾"	115	50/60
16220-018	12	¾" x ¾"	230	50/60
16220-019	12	1" x 1"	115	50/60
16220-020	12	1" x 1"	230	50/60
16220-021	12	1½"	115	50/60
16220-022	12	1½"	230	50/60
16220-023	12	2" x 2"	115	50/60
16220-024	12	2" x 2"	230	50/60

3. Using **Tubing Connector Chart**, select one T-code for each X-code chosen from Chart D. (When ordering tandem pumps, the largest bellow module is nearest the gearmotor.)

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(continued)



T-CODES			
T-Code	For Elastomeric Tubing Size	Connector Type	Bellows Module Size
T-001	⅛" I.D. x ¼" O.D.	Barbed Compression	½"
T-002	¼" I.D. x ⅝" O.D.	Barbed Compression	½"
T-003	⅜" I.D.	Barbed	¾", 1", 1½" & 2"
T-004	½" I.D.	Barbed	¾", 1", 1½" & 2"
T-005	⅞" pipe thread	Female NPT	¾", 1", 1½" & 2"
T-006**	⅛" I.D. x ¼" O.D.	Barbed Compression	¾", 1", 1½" & 2"
T-007**	¼" I.D. X ⅝" O.D.	Barbed Compression	¾", 1", 1½" & 2"
T-008	⅜" I.D.	Elbow Swivel, Barbed	¾", 1", 1½" & 2"
T-009	½" I.D.	Elbow Swivel, Barbed	¾", 1", 1½" & 2"
T-011	¼" I.D.	Elbow Swivel, Barbed	¾", 1", 1½" & 2"
T-012*	4mm (⅝") I.D.	Elbow Swivel, Barbed	¾", 1", 1½" & 2"
T-013*	4mm (⅝") I.D.	Elbow Swivel, Barbed	½" & ¾"
T-014	¼" I.D.	Barbed	¾", 1", 1½" & 2"

For flows of 1800 ml/min and above, ½" I.D. tubing connectors recommended.
 *Use of 4mm connector is limited by flow rate; please contact factory with specifications.
 **Cost added for connector.