

Miniature Diaphragm Pumps

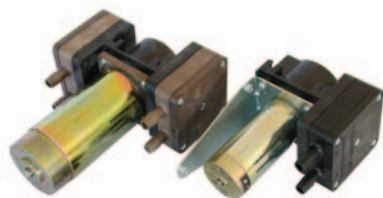
**Pneutronics Division
T Squared**



T2-01

High-Performance Diaphragm Pump

The T2-01 high-performance pump, available in a single and twin head, features T Squared's patented high efficiency dynamic valve design. With the most compact, lightweight package in its performance range, T2-01 is ideal for use in portable air and gas applications.



Features

- ◆ Available in single and twin head (T2-01 SH and T2-01TH).
- ◆ Offers flow up to 35 slpm with SH and up to 65 slpm with TH.
- ◆ Offers a range of custom configurations and the use of either DC or BLDC motors to optimize "drop-in" size, performance, and cost.
- ◆ Meets operating pressures up to 22 psig and vacuum up to 21 in Hg.
- ◆ Provides quiet operation and low vibration and is contamination-free.
- ◆ Alternative materials for chemical resistance to corrosive atmospheres available.

Physical Properties

SINGLE HEAD (SH)

Length:

6.5 in (165 mm)

Width:

2.75 in (70 mm)

Height:

3.91 in (99 mm)

Weight:

53 oz (1502 g)

TWIN HEAD (TH)

Length:

7.07 in (180 mm)

Width:

2.75 in (70 mm)

Height:

5.16 in (131 mm)

Weight:

61 oz (1729 g)

Performance Characteristics*

SINGLE HEAD (SH)

Flow:

Up to 35 slpm

Pressure:

Up to 22 psig

Vacuum:

Up to 21 in Hg

Voltage:

12, 24 VDC (other options available)

TWIN HEAD (TH)

Flow:

Up to 65 slpm

Pressure:

Up to 22 psig

Vacuum:

Up to 21 in Hg

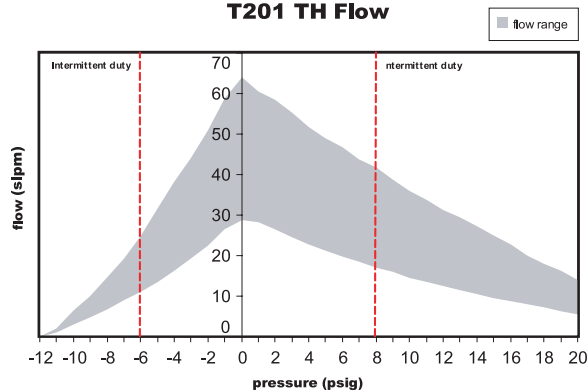
Voltage:

12, 24 VDC (other options available)

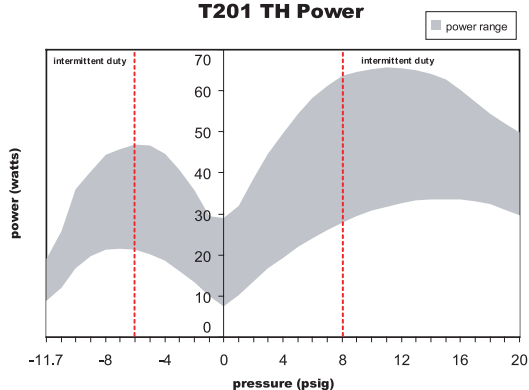
* All performance data is based on standard conditions: 70°F and 14.7 psia

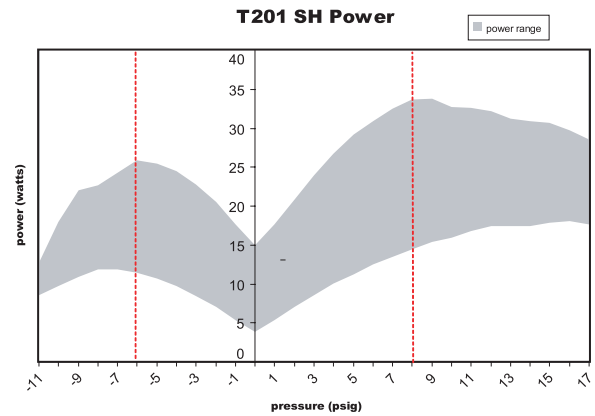
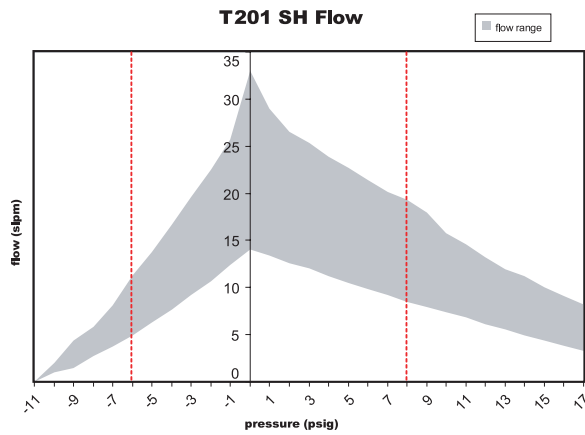
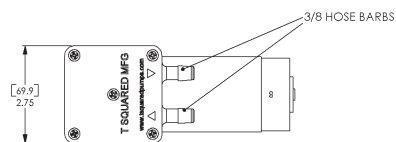
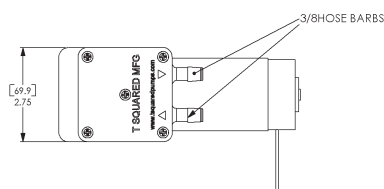
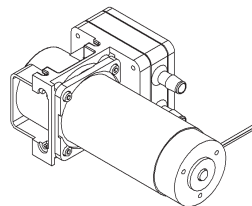
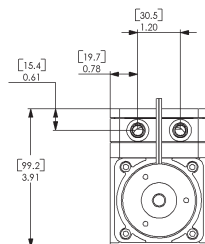
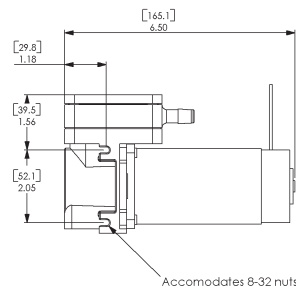
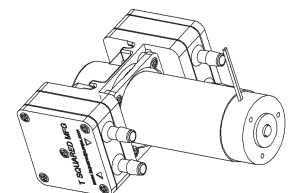
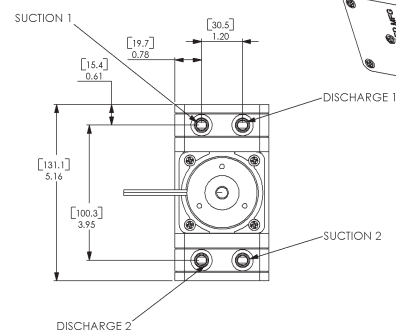
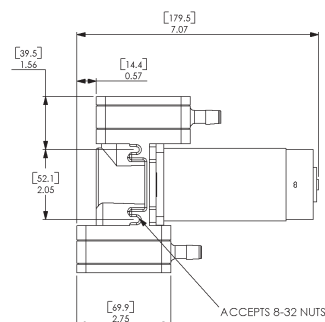
Flow

T201 TH Flow



T201 TH Power



Flow Continued...**Dimensions****Single Head T201****Twin Head T201**

For more information, call us toll-free at 1-800-525-2857

T2-02



High-Performance Diaphragm Pump

The T2-02 diaphragm pump features T Squared's patented high efficiency dynamic valve design and achieves remarkable performance and efficiency. With the most compact, lightweight package in its performance range, T2-02 is ideal for use in portable air and gas applications.

Features

- ♦ Offers ultra-compact size, long life, and high efficiency.
- ♦ Includes DC Motor.
- ♦ Provides quiet operation and low vibration.
- ♦ Contamination-free.
- ♦ Range of custom configurations and optional motors available to optimize "drop-in" size, performance, and cost.
- ♦ Alternative materials for chemical resistance to corrosive atmospheres available.

Physical Properties

Length:

4.3 in (109 mm)

Width:

1.65 in (42 mm)

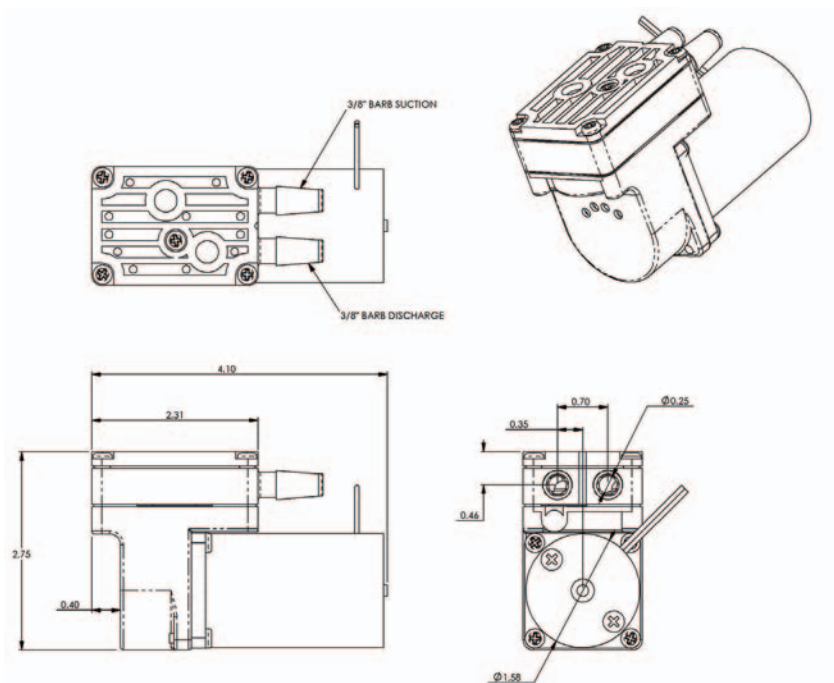
Height:

3.1 in (79 mm)

Weight:

14.5 oz (411 g)

Dimensions



Performance Characteristics*

Flow:

Up to 23 slpm

Pressure:

Up to 10 psig

Vacuum:

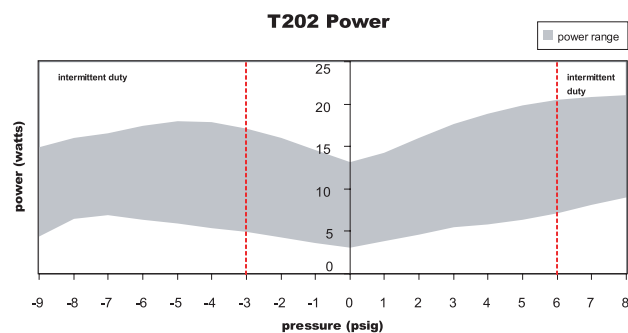
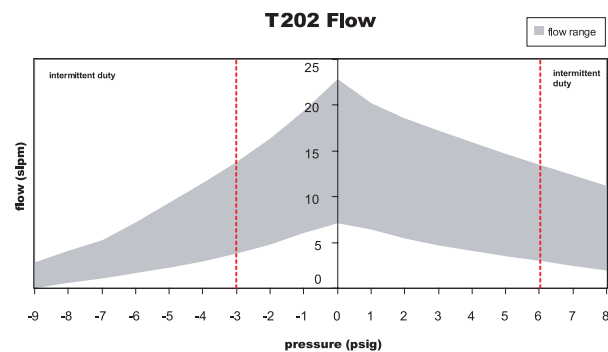
Up to 21 in Hg

Voltage:

24 VDC

* All performance data is based on standard conditions: 70°F and 14.7 psia

Flow



Micro Pump

3.0 LPM Free Flow



The T2-03 is a miniature powerhouse ideal for use in portable air and gas applications. It performs well in environments where DC operation, high performance, low power, long life, and high pressures or vacuums are critical. The T2-03 series is available in the standard "HP" model, "e-Compact" model and the "Compact" model.

Features

- ◆ **Ultra-compact Size**
T2-03 performance pumps fit into extremely tight finished packages, meeting the application requirements of today's handheld instruments, such as portable gas detectors.
- ◆ **Intrinsically Safe Motors**
The T2-03 HP & T2-03 Compact motors satisfy intrinsic safety requirements, making them ideal for sampling aerosols, gases, and vapors in hazardous environments.
- ◆ **Optimized Configurations**
In concert with several DC motor options, Parker uses different size eccentrics to address various application needs. The premium brush motor in the HP model delivers the highest pressure-to-power ratio. The Compact model incorporates a high efficiency ironless core motor for 3.0 lpm free flow and ultimate space constraints. The eCompact fits applications where maximum pressure cannot be sacrificed, but cost is critical.
- ◆ **Broad Media Compatibility**
The T2-03 series of pumps offers various diaphragm, valve, and head materials for chemical resistance to corrosive atmospheres.
- ◆ **Additional Features**
 - Oil-Free/Contaminant Free Operation
 - Pneumatic Termination - 1/8" Hose Barb
(1/16" Barb available for T2-03 E-compact model T3EP-1ST-05-3FFP)

Performance Data

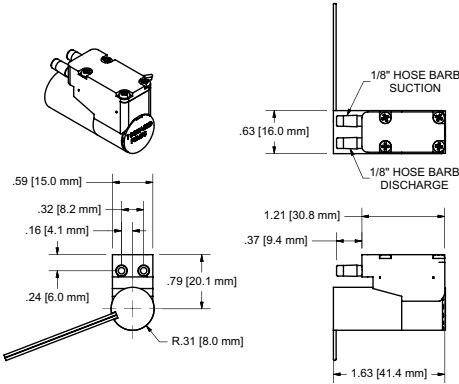
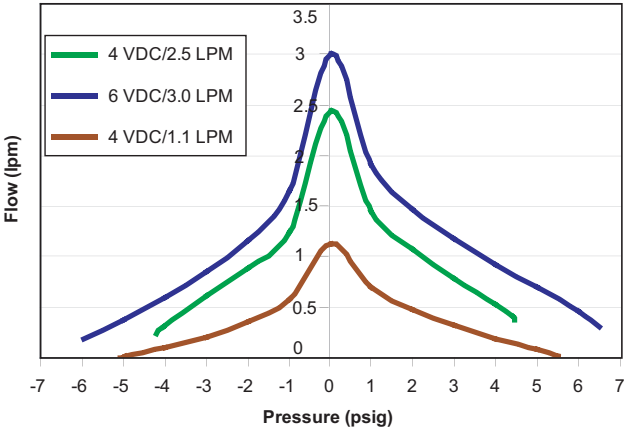
PNEUMATIC DATA		T2-03 Compact		T2-03 E-compact		T2-03 HP
Part Number	T3CP-1HE-06-1SNB	T3CP-1HE-04-1SNB	T3CP-1HE-04-2SEB	T3EP-1ST-08-1SNB	T3EP-1ST-05-3FFP	T3HP-1PD-12-1SNP
Head Configuration	Single	Single	Single	Single	Single	Single
Max. Flow (lpm)	3.0	2.5	1.1	2.5	1.5	2.5
Max. Intermittent Pressure (PSI / mbar)	6.5 / 450	4.5 / 310	5.5 / 380	10.5 / 725	11.7 / 1435	12 / 830
Max. Continuous Pressure (PSI / mbar)	2 / 140	2 / 140	2 / 140	2 / 140	2 / 140	8 / 550
Max. Intermittent Vacuum (in Hg / mbar)	12.2 / 415	8.6 / 290	10.4 / 350	20.8 / 705	16.7 / 565	18 / 615
Max. Continuous Vacuum (in Hg / mbar)	4 / 140	4 / 140	4 / 140	4 / 140	4 / 140	12.2 / 415
ELECTRICAL DATA						
Motor Type	High Efficiency Ironless Core	High Efficiency Ironless Core	High Efficiency Ironless Core	Standard Duty Iron Core	Standard Duty Iron Core	Premium Duty Brush DC
Nominal Motor Voltages (DC)	6	4	4	8.3	5.6	12.4
Max. Motor Voltages (DC)	6	4	4	8.3	5.6	12.4
Max Power @ Nominal Voltage (watts)	1.9	1.2	0.4	3.2	2.3	1.2
Electrical Termination	6" Wire Leads	6" Wire Leads	5.9" Wire Leads	Solder Tabs	Solder Tabs	7.5" Wire Leads
GENERAL DATA						
Material - Diaphragm/Valves/Head	N / Si / ABS	N / Si / ABS	EPDM / Si / ABS	N / Si / ABS	FKM / FKM / PPS	N / Si / PPS
Max. Ambient & Media Temp.	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
Dimensions - L x W x H (in./mm)	1.64 x 0.59 x 1.10 / 41.6 x 16.0 x 28.1	1.64 x 0.59 x 1.10 / 41.6 x 16.0 x 28.1	1.64 x 0.59 x 1.10 / 41.6 x 16.0 x 28.1	1.76 x 0.63 x 1.32 / 45.0 x 16.0 x 33.6	1.76 x 0.63 x 1.32 / 45.0 x 16.0 x 33.6	2.28 x 0.59 x 1.11 / 58.0 x 16.0 x 28.0
Net Weight (oz./grams)	1.18 / 33	1.18 / 33	1.18 / 33	1.17 / 33	1.17 / 33	1.49 / 42

N = Neoprene, Si = Silicone, ABS = Acrylonitrile Butadiene Styrene, EPDM = Ethylene Propylene Diene Monomer, FKM = Fluorinated Elastomer, PPS = Polyphenylene Sulfide

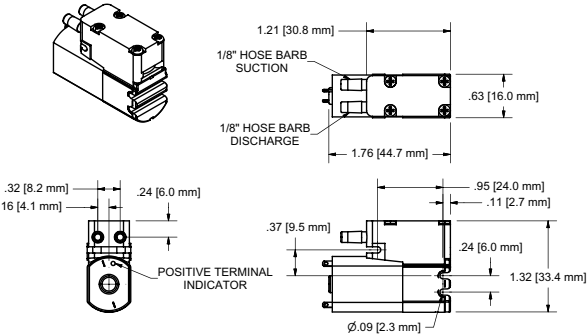
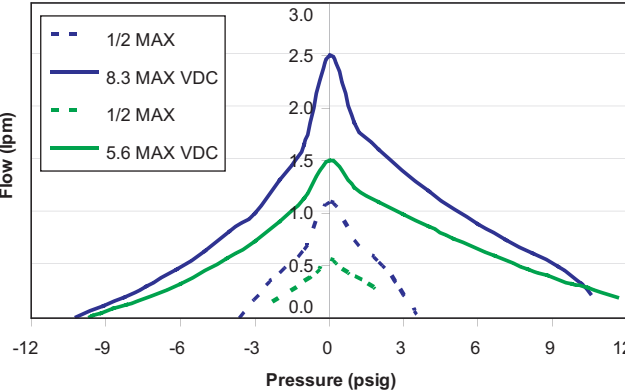
NOTE: All performance data is typical based on standard conditions: 70°F and 14.7 psia

Flow and Dimensions

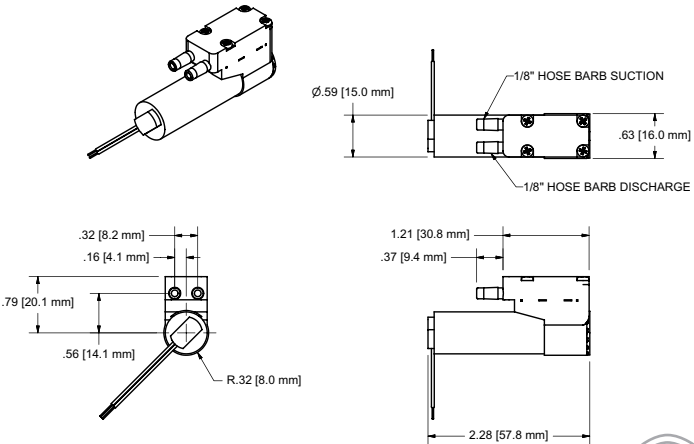
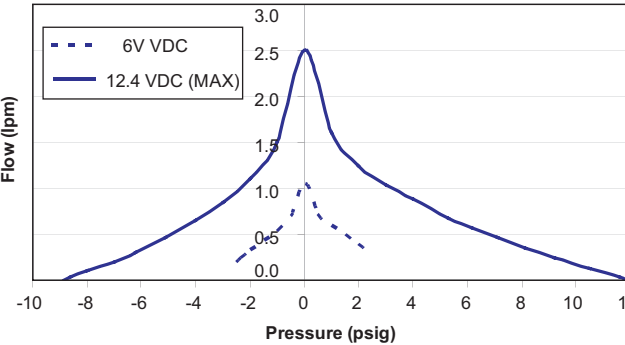
T2-03 Compact Flow



T2-03 eCompact Flow



T2-03 HP



Ordering Information

See Performance Data Table for part numbers.



Order online at www.parkerfluidics.com or call 1.800.482.8258



Parker Hannifin Corporation
Pneutronics Division
www.parker.com/pneutronics
Rev. 03/2007

Ultra-Compact Performance Diaphragm Pump

T2-04

The T2-04 is an ultra-compact pump available in single head (T2-04 SH) or twin head (T2-04 TH) and ideal for use in portable air and gas applications. Delivering flow up to 7 slpm, this pump works well in environments where DC operation, high performance, low cost, minimal weight, and compact size are critical.

Features

- ♦ Offers ultra-compact size, long life, and high efficiency.
- ♦ Provides quiet operation and low vibration.
- ♦ Contamination-free.
- ♦ Offers E-Z Mounting.
- ♦ Range of custom configurations and optional motors available to optimize "drop-in" size, performance, and cost.
- ♦ Alternative materials for chemical resistance to corrosive atmospheres available.



Physical Properties

SINGLE HEAD (SH)

Length:

2.16 in (55 mm)

Width:

0.93 in (24 mm)

Height:

1.95 in (50 mm)

Weight:

3.04 oz (86 g)

TWIN HEAD (TH)

Length:

2.16 in (55 mm)

Width:

0.93 in (24 mm)

Height:

2.27 in (58 mm)

Weight:

3.3 oz (94 g)

Performance Characteristics*

SINGLE HEAD (SH)

Flow:

Up to 3.5 slpm

Pressure:

Up to 10 psig

Vacuum:

Up to 18 in Hg

Voltage:

12 VDC

TWIN HEAD (TH)

Flow:

Up to 7 slpm

Pressure:

Up to 10 psig

Vacuum:

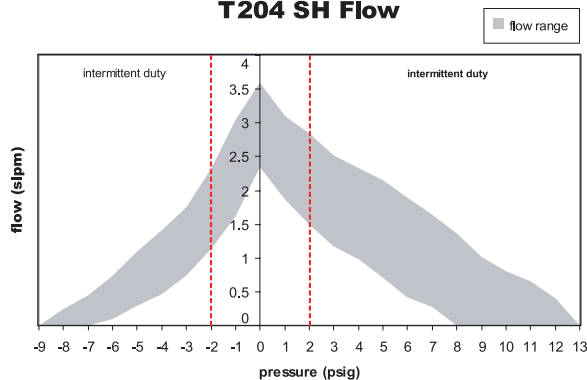
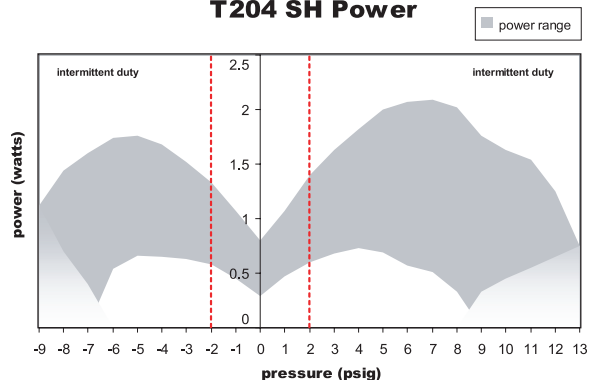
Up to 18 in Hg

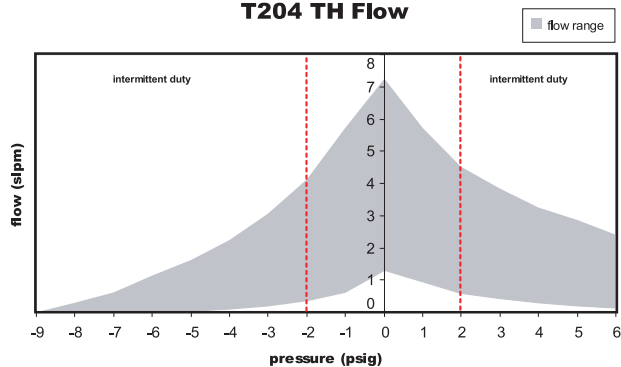
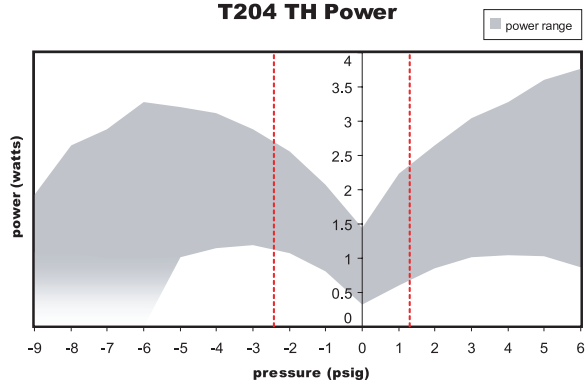
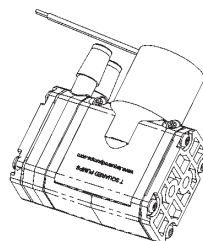
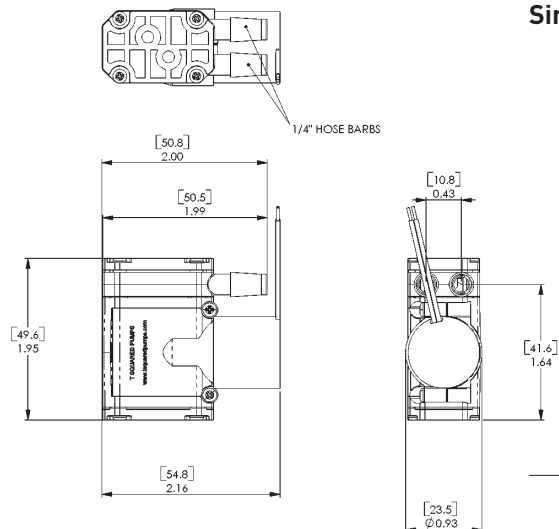
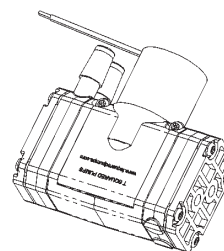
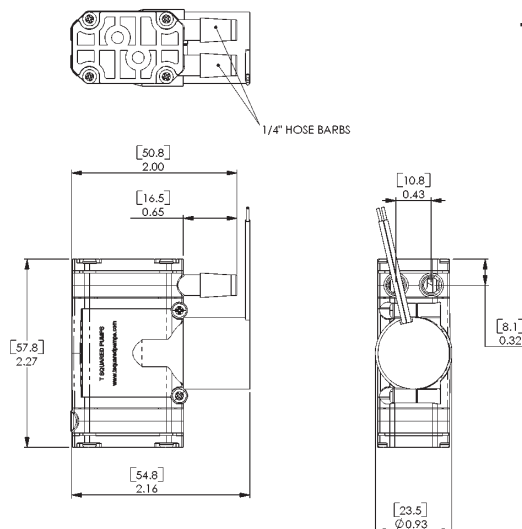
Voltage:

9, 12, 18 VDC

* All performance data is based on standard conditions: 70°F and 14.7 psia

Flow

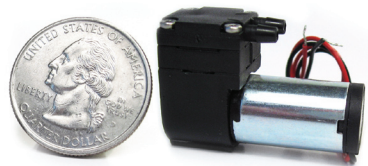
T204 SH Flow

T204 SH Power


Ultra-Compact Performance Diaphragm Pump**Flow Continued...****T204 TH Flow****T204 TH Power****Dimensions****Single Head T204****Twin Head T204**

For more information, call us toll-free at 1-800-525-2857

Micro Pump

Up to 650 ml/min Free Flow



This pump's small size and high efficiency meet the critical requirements for customers in the portable handheld gas detection industry. Smaller than the T2-03, this cost-effective pump uses fewer parts while maintaining high flow.

Features

- ◆ **Ultra-compact Size**
T2-05 pump packs performance, long life, and high efficiency into one of the smallest packages in the industry, meeting the application requirements of today's handheld instruments, such as portable gas detectors.
- ◆ **Intrinsically Safe Motors**
The T2-05 motor satisfies intrinsic safety requirements, making it ideal for sampling aerosols, gases, and vapors in hazardous environments.
- ◆ **Optimized Configurations**
Parker can precisely configure the pump to meet instrument specifications.
- ◆ **Broad Media Compatibility**
This series offers various diaphragm, valve, and head materials for chemical resistance to corrosive atmospheres.
- ◆ **Additional Features**
 - Oil-Free/Contaminant Free Operation
 - Quiet Operation and Low Vibration
 - Pneumatic Termination - 3/32" Hose Barb
 - Optional Mounting Bracket

T2-05 Performance Data

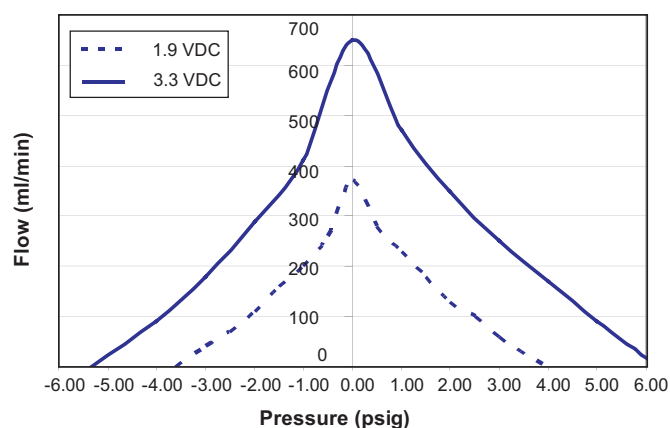
PNEUMATIC DATA		T2-05
Part Number		T5-1HE-03-1EEB
Head Configuration		Single
Max. Flow (lpm)		0.65
Max. Intermittent Pressure (PSI / mbar)		6.2 / 430
Max. Continuous Pressure (PSI / mbar)		6.2 / 430
Max. Intermittent Vacuum (in Hg / mbar)		10.8 / 365
Max. Continuous Vacuum (in Hg / mbar)		10.8 / 365
ELECTRICAL DATA		
Motor Type		High Efficiency Ironless Core
Nominal Motor Voltages (DC)		3.3
Max. Motor Voltages (DC)		3.3
Max Power @ Nominal Voltage (watts)		0.36
Electrical Termination		5.9" Wire Leads
GENERAL DATA		
Material - Diaphragm/Valves/Head		EPDM / EPDM / ABS
Max. Ambient & Media Temp.		0°C to +50°C
Dimensions - L x W x H (in./mm)		1.26 x 0.53 x 0.86 / 32.0 x 13.5 x 22.0
Net Weight (oz./grams)		0.51 / 14

EPDM = Ethylene Propylene Diene Monomer, ABS = Acrylonitrile Butadiene Styrene

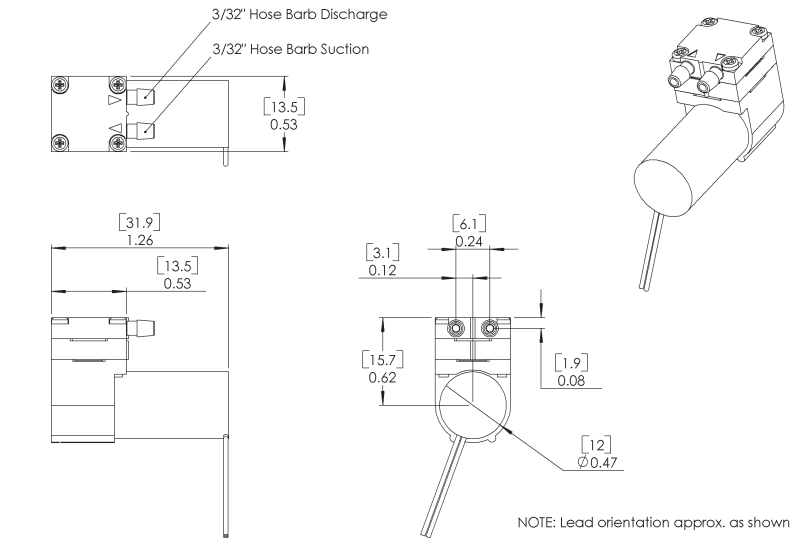
NOTE: All performance data is typical based on standard conditions: 70°F and 14.7 psia

Flow

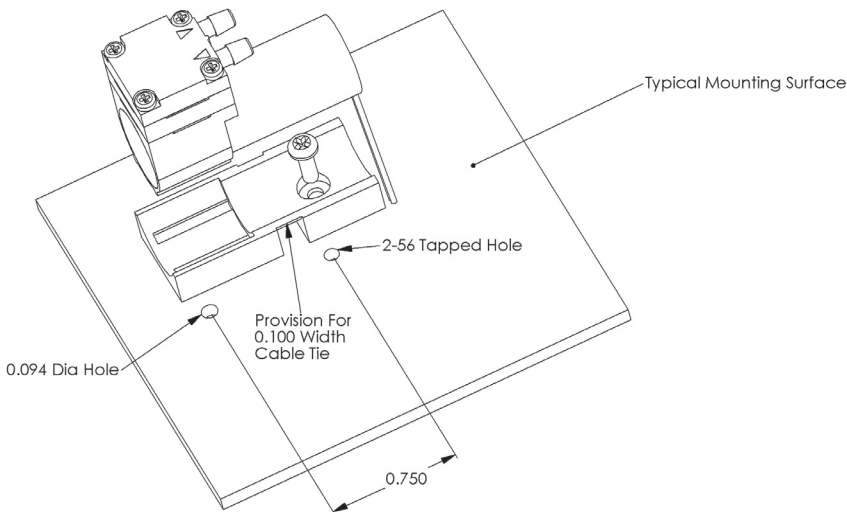
T2-05 Flow



Dimensions & Flow

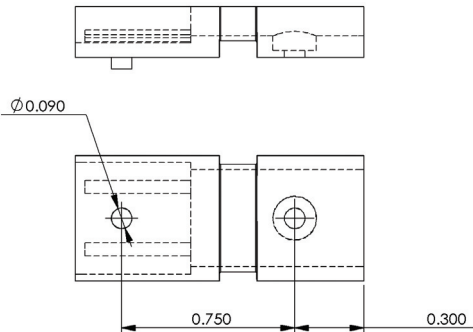
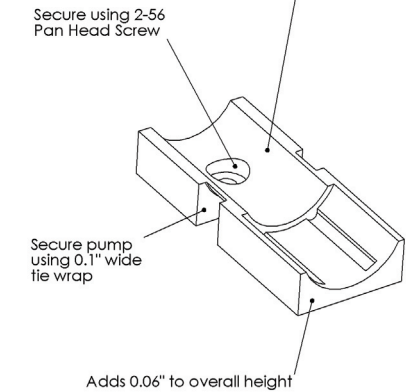


Detailed View



Optional Mounting Bracket

05-04-003 Pump Mount



Ordering Information

See Performance Data Table for part numbers.



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Parker Hannifin Corporation
Pneutronics Division
www.parker.com/pneutronics
Rev. 03/2007

Mini Pumps

12 lpm Free Flow



The T2-06 diaphragm pump delivers high flow with a compact size and achieves significant performance and efficiency. This pneumatic pump is ideal for a broad range of medical, bio-analytical, and diagnostic OEM instrumentation applications.

Features

- ◆ **Smallest Footprint**
Space in portable and benchtop instruments is at a premium, every inch counts. The T2-06 family of pumps has the smallest footprint in its class, as much as 1/4" to 1/2" less in overall width.
- ◆ **Motor Options**
Parker configured the T2-06 with several DC brush iron core motor options to fit various application needs. The Light Duty (LD) brush is optimized for ± 2 psig, while the Heavy Duty (HD) brush provides up to 3 times the life at continuous pressures of 19 psig.
- ◆ **OEM Configurable**
When a standard product does not address critical performance parameters such as efficiency, peak flow, pressure and continuous hours of life, Parker can create the ideal configuration with slight modifications to motors, diaphragms, or eccentrics. Contact the technical team and allow us to configure your pump today.
- ◆ **Value Added Services**
Allow Parker to add value to your pump with something as simple as an electrical connector, mounting hardware, or total fluidic integration.
- ◆ **Additional Features**
 - Oil-Free/Contaminant-Free Operation
 - Mounting Holes: 4x40 UNC
 - Pneumatic Termination: 3/16" Hose Barb
 - Electrical Termination: Solder Tabs or Wire Leads

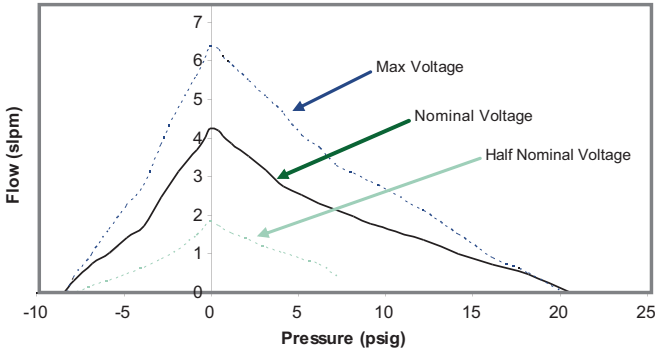
Specifications

Pneumatic Data	Light Duty (LD)		Heavy Duty (HD)	
Part Number	See Ordering Info	See Ordering Info	See Ordering Info	See Ordering Info
Head Configuration	Single Head (SH)	Twin Head (TH)	Single Head (SH)	Twin Head (TH)
Max. Flow (lpm)	6	12	6	12
Max. Intermittent Pressure (PSI / bar)	19 / 1.3	19 / 1.3	19 / 1.3	19 / 1.3
Max. Continuous Pressure (PSI / bar)	2 / 0.14	2 / 0.14	19 / 1.3	19 / 1.3
Max. Vacuum (in Hg / mbar)	17 / 576	17 / 576	17 / 576	17 / 576
Electrical Data	Light Duty (LD)		Heavy Duty (HD)	
Motor Type	Brush DC	Brush DC	Brush DC	Brush DC
Nominal Motor Voltages (DC)	12 or 24	12 or 24	12 or 24	12 or 24
Max. Motor Voltages (DC)	17 or 32	17 or 32	19 or 38	19 or 38
Max Power @ Nominal Voltage (watts)	5.2	8.4	4	7
Electrical Termination	Solder Tabs	Solder Tabs	10" Wire Leads	10" Wire Leads
General Data	Light Duty (LD)		Heavy Duty (HD)	
Material - Diaphragm / Valves / Head	EPDM / EPDM / PPA	EPDM / EPDM / PPA	EPDM / EPDM / PPA	EPDM / EPDM / PPA
Max. Ambient & Media Temp.	0°C to +50°C	0°C to +50°C	0°C to +50°C	0°C to +50°C
Dimensions - L x W x H (in. / mm)	3.11 x 1.19 x 1.98 /	3.45 x 1.19 x 2.6 /	3.19 x 1.22 x 1.98 /	3.5 x 1.22 x 2.6 /
	79 x 30 x 50	88 x 30 x 66	81 x 31 x 50	89 x 31 x 66
Net Weight (oz./grams)	5.8 / 163	6.5 / 186	6.9 / 195	7.7 / 218

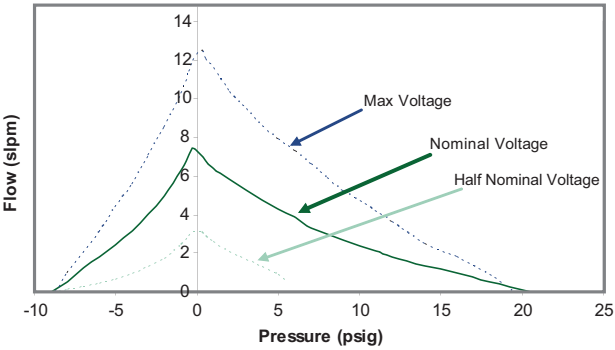
NOTE: All performance data is typical based on standard conditions: 70°F and 14.7 psia

Flow

T206 SH Flow

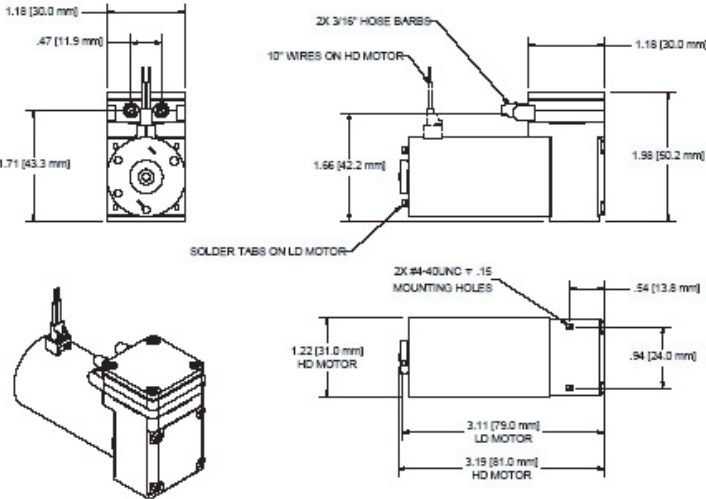


T206 TH Flow

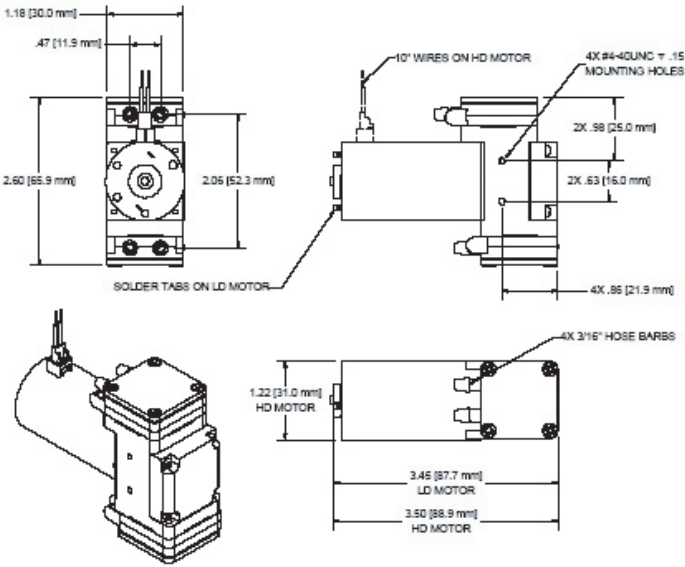


Dimensions

Single Head (SH) T2-06



Twin Head (TH) T2-06



Ordering Information

Sample Part ID	T6	SH	S	HD	12	1	E	E	A
Description	Series	Head Configurations	Mounting Options	Motors	Nominal/Maximum* Voltages	Free Flow (lpm)**	Valve	Diaphragm	Body/Head
Options	T6: T2-06	SH: Single Head TH: Twin Head	S: Standard (Barbs on Head)	LD: Light Duty Brush HD: Heavy Duty Brush Consult factory for Premium Brush and BLDC motor options.	12: 12 DC/19DC 24: 24 DC/38DC *Continuous duty at maximum rated voltage may reduce motor life.	1: 6 (SH - Single Head) 12 (TH - Twin Head) ** At maximum rated voltage.	E: EPDM	E: EPDM	A: PPA



To order, please call 1.800.482.8258 or visit www.parkerfluidics.com

