

5313 Series — Liquid Diaphragm ECO



FEATURES

- > High end vacuum
- > Good aspiration performance
- > Valve system optimized for gas / liquid mixtures
- > Good reliability and durability with most common media
- > Flexible design for customized solutions

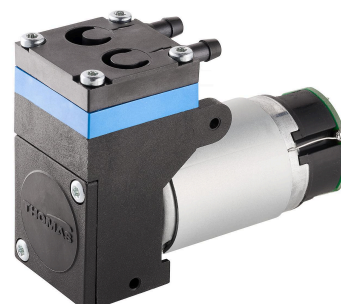
TYPICAL APPLICATIONS

- > In-vitro diagnostics
- > Inkjet printers
- > Condensate removal

BASE MODEL

5313 BLDC P

5313 DC S



Diaphragm

Liquid Diaphragm **5313 BLDC Performance**

Max. liquid flow*	530 ml/min
Max. gas flow*	2.2 l/min
Pressure (liquid)*	1000 mbarg
Final vacuum (gas)*	-800 mbarg

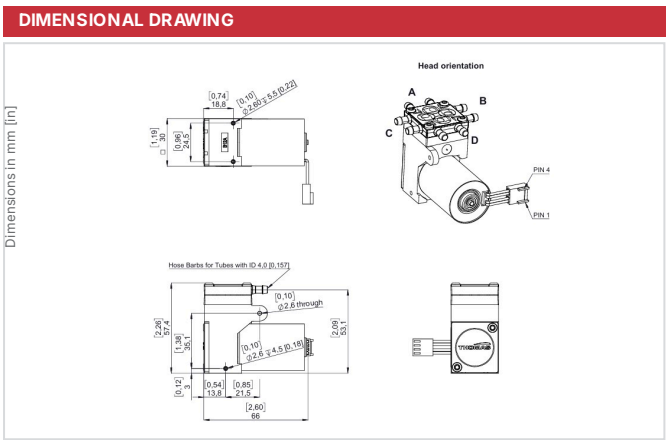


HYDRAULIC DATA*	EPDM	FKM
Liquid Flow Performance [ml/min]	470	530
Max. cont. Pressure in mbarg [psig]	500 [7.3]	500 [7.3]
Max. int. Pressure in mbarg [psig]	-1,000 [-14.5]	-1,000 [-14.5]
Max. suction height in mbarg [psig]	-800 [-11.6]	-800 [-11.6]
Power consumption @ 1 barg [W]*	7.5	11

PNEUMATIC DATA*	EPDM	FKM
Gas Flow Performance [l/min]	2.2	2.1
Max. cont. pressure in mbarg [psig]	1,000 [14.5]	1,000 [14.5]
Max. vacuum in mbarg [psig]	-800 [-11.6]	-800 [-11.6]
Power consumption @ 50% vacuum [W]*	3.7	3.7

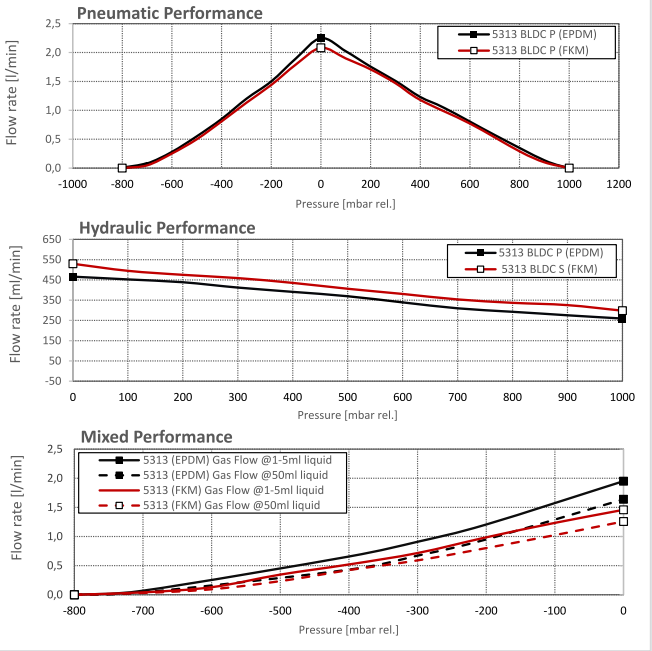
OPERATING CONDITIONS		
Media temperature (liquid) in °C [°F]	+5 to +80	[+41 to +176]
Ambient temperature in °C [°F]	+5 to +40	[+41 to +104]
Storage temperature in °C [°F]	-30 to +70	[-22 to +158]

PHYSICAL DATA		
Dimensions l x w x h in mm [in]	63x30x57	[2.48x1.18x2.24]
Weight in g [lbs]	165	[0.36]



ORDER INFORMATION	
Part Number	Model Key
53130002	5313-F-0-D-24V-BLDC P-4200-12-EEE-PPS-HB
53130004	5313-F-0-D-24V-BLDC P-4200-12-FFF-PPS-HB
53130102	5313-F-0-D-12V-BLDC P-4200-12-EEE-PPS-HB
53130104	5313-F-0-D-12V-BLDC P-4200-12-FFF-PPS-HB
Other configurations	Upon request (see MODEL KEY)

FLOW CURVE*



ELECTRICAL DATA	
Motor type	Brushless DC (BLDC)
Nominal voltage	12 / 24 V DC
Max. power consumption [W]*	11.3 (liquid operation up to 1 bar)
Insulation class	A
Protection class	IP 20
Drive electronics	Integrated
Connector housing	Molex KK 22-01-3047
Connector terminal	Molex KK 08-50-0031

ELECTRICAL CONNECTION			
Pin 1	V Supply	Red	12 V DC (max. range 9.0 - 14.0 V) 24 V DC (max. range 20.0 - 26 V)
Pin 2	Ground	Black	For VSupply (PIN 1) and Speed ctrl (PIN 3)
Pin 3	Speed control	Blue	Analog: Input voltage range 0-5 (max. 5.5V) PWM freq. 10-30 kHz PWM amplit. 23-100% (up) / 100-15% (down) Threshold Voltage: 1.0 V
Pin 4	Tacho Out	Green	3 Pulse per revolution Pulse Time Pulse time t ^{low} / t ^{high} = 50% Output Level „LOW“: 0 / max. 0.5V Output Level „HIGH“: min 4.5V / max. 5.5V

MODEL KEY		
5313 - F - 0 - D - 24V - BLDC P - 4200 - 12 - FFF - PPS - HB		
Pos	Options	Description
1	5313	Product Line
2	F	Fluid operation
3	0	Tubing: no tubing included
4	A / B / C / D	Port position: standard D over motor
5	12V / 24V	Nominal voltage
6	BLDC P	Motor: BLDC Performance
7	4200	Nominal motor speed (motor dependent)
8	12 / 10 / 07	Eccentric: e.g. 12 ⇒ 1.2 mm [0.47 in]
9	EEE / FFF	Diaphragm, valve / sealing: EPDM or FKM
10	PPS	Pump head material: Polyphenylene Sulfide
11	HB / DN	Hose Barbs / DN 4/6 compression fittings

*Typical values determined under standardised laboratory conditions (T=20-25 °C; p=950 mbar). Not a warranty or specification agreement. Binding specifications only per product-specific data sheet. See full notice on the last page.

Liquid Diaphragm **5313 DC Standard**

Max. liquid flow*	350 ml/min
Max. gas flow*	1.7 l/min
Pressure (liquid)*	1000 mbarg
Final vacuum (gas)*	-800 mbarg

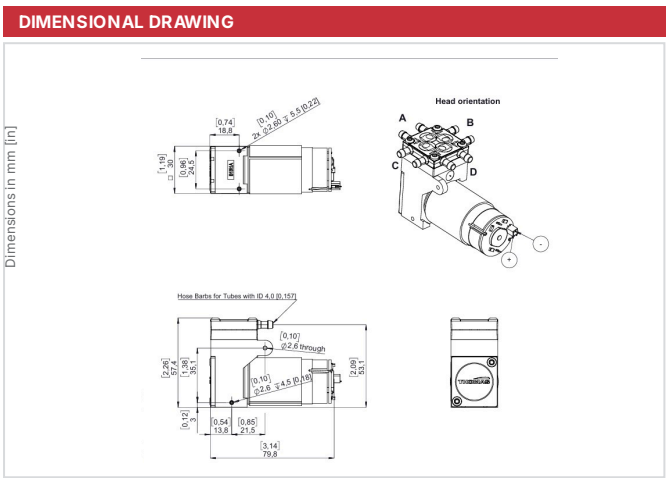


HYDRAULIC DATA*	EPDM	FKM
Liquid Flow Performance [ml/min]	260	350
Max. cont. Pressure in mbarg [psig]	500 [7.3]	500 [7.3]
Max. int. Pressure in mbarg [psig]	-1,000 [-14.5]	-1,000 [-14.5]
Max. suction hight in mbarg [psig]	-800 [-11.6]	-800 [-11.6]
Power consumption @ 1 barg [W]*	4.7	6.8

PNEUMATIC DATA*	EPDM	FKM
Gas Flow Performance [l/min]	1.5	1.7
Max. cont. pressure in mbarg [psig]	1,000 [15.95]	1,000 [14.5]
Max. vacuum in mbarg [psig]	-800 [-11.6]	-800 [-11.6]
Power consumption @ 50% vacuum [W]*	2.5	2.5

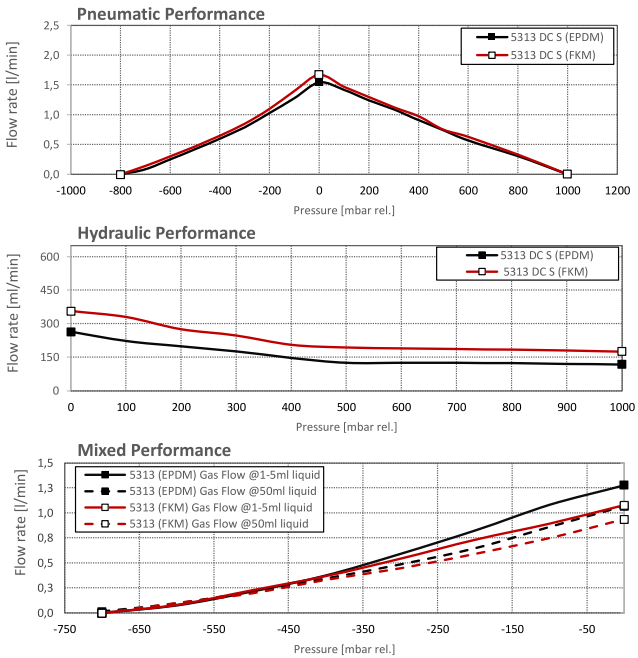
OPERATING CONDITIONS		
Media temperature (liquid) in °C [°F]	+5 to +80	[+41 to +176]
Ambient temperature in °C [°F]	+5 to +40	[+41 to +104]
Storage temperature in °C [°F]	-30 to +70	[-22 to +158]

PHYSICAL DATA		
Dimensions l x w x h in mm [in]	63x30x57	[2.48x1.18x2.24]
Weight in g [lbs]	185	[0.41]



*Typical values determined under standardised laboratory conditions (T=20-25 °C; p=950 mbar). Not a warranty or specification agreement. Binding specifications only per product-specific data sheet. See full notice on the last page.

FLOW CURVE*



ELECTRICAL DATA

Motor type	Brushed DC
Nominal voltage	12 / 24 V DC
Max. power consumption [W] *	9.2 (liquid operation)
Insulation class	F
Protection class	IP 00

MODEL KEY

5313 - F - 0 - D - 24V - DC S - 3200 - 12 - FFF - PPS - HB

Pos	Options	Description
1	5313	Product Line
2	F	Fluid operation
3	0	Tubing: no tubing included
4	A / B / C / D	Port position: standard D over motor
5	12V / 24V	Nominal voltage
6	DC S	Motor: DC Standard
7	3200	Nominal motor speed (motor dependent)
8	12 / 10 / 07	Eccentric: e.g. 12 ⇒ 1.2 mm [0.47 in]
9	EEE / FFF	Diaphragm, valve / sealing: EPDM or FKM
10	PPS	Pump head material: Polyphenylene Sulfide
11	HB / DN	Hose Barbs / DN 4/6 compression fittings

ORDER INFORMATION

Part Number	Model Key
53130001	5313-F-0-D-24V-DC S-3200-12-EEE-PPS-HB
53130003	5313-F-0-D-24V-DC S-3200-12-FFF-PPS-HB
53130101	5313-F-0-D-12V-DC S-3200-12-EEE-PPS-HB
53130103	5313-F-0-D-12V-DC S-3200-12-FFF-PPS-HB
Other configurations	Upon request (see MODEL KEY)

PUMP AND COMPRESSOR SOLUTIONS FOR OEMS WORLDWIDE

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